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THE PHARMACIST AND THE PATENT MEDICINE.

LIKE the gallant soldier who said in his letter, "I am writing this with my sword in one hand and my pistol in the other," so the modern pharmacist stands before the medical profession, with one hand full of proprietary cure-alls, and with the other distributing literature advocating a return to rational prescribing and an increased use of official preparations.

Without attempting to excuse him altogether, the writer feels that the charge so frequently made that the druggist is attempting to work both ends from the middle is in large measure unjust. Those who make it do not realize that the druggist's apparent inconsistency is pressed upon him by force of circumstances in which patent medicines represent his business necessities, while the propaganda for rational prescribing represents his aspirations for better things and his strivings for a more professional, as well as for a more profitable business.

What are Proprietary Medicines? Under the head of proprietary medicines are to be included all ready-made medicines, secret or non-secret, that are put up in packages, of uniform style and size, and known by a specific title the exclusive right to which is claimed by some particular person. They are usually unofficial mixtures; but if Druggist Jones puts up U. S. P. Antiseptic Solution and claims for it some special virtue not possessed by the same preparation as commonly compounded, then to all intents and purposes his composition is a proprietary preparation. Of course it is open to Smith and Brown to claim that the antiseptic solutions of their manufacture are the same as, or even superior to the article made by Jones, but they could not claim to be selling Jones' preparation when they were in fact selling their own.

It is this right to the exclusive use of the maker's own name, or of an arbitrary or fanciful title to distinguish his product, that constitutes the essence of proprietorship in medical compositions, as in other things.

As thus understood, the term proprietary medicine includes not only the common or garden variety of "patent medicines" made by the man who lives "away off," but also the corn cure and cough mixture put up by the retail druggist and sold to his local constituency, as well as the more pretentious line of preparations put up by the druggist's cooperative companies. Moreover, since there is a distinct tendency in the food and drugs acts to consider toilet articles and cosmetics, and in fact all compositions that are not distinctly foods, as drugs and medicines, it will be seen that the definition will apply to the greater proportion of the stock of an ordinary drug store, and consequently that it is a question the solution of which touches the interests of every druggist, whether large or small.

The A. M. A. Attitude. In respect to patent medicines, the medical profession occupies a more fortunate, or at least a different position than that occupied by pharmacy. Through its chief exponent, the Journal of the American Medical Association, it has expressed itself in terms that, if not final are at least far from being obscure. As the writer understands it, this organization's attitude upon the subject is something near the following:

It regards non-secret proprietary preparations as legitimate provided they possess real therapeutic value, and are labeled and advertised in accordance with the requirements prescribed by the Council on Pharmacy and Chemistry, and provided, also, that they are sold only to or through the medical profession.

It does not regard as legitimate any medicinal preparation of secret composition, or which is advertised to or sold directly to the laity.

While the Journal's attacks upon proprietary medicines of the latter class have been addressed mainly to those which are plainly fraudulent, yet this by no means represents the full extent of the A. M. A. policy. From the A. M. A. standpoint the "trail of the serpent is over them all," and there can be no such thing as a legitimate proprietary medicine that assumes the competency of the untrained layman to diagnose his own case and select the appropriate remedy for it.

It does not, however, condemn the sale to the laity of "simple household remedies," which term we understand to apply to simple official mixtures when sold under their official titles, and not exploited with the aid of literature describing the symptoms they are expected to remove or the ailments they are intended to relieve.

It believes that the patent medicine business is wrong in principle; it does not believe that it can be reformed, but that it should be exterminated, and it would regard as ideal a situation that would require remedial agents always to be administered by a legally qualified physician, or in consequence of his diagnosis and advice. As a corollary, it believes that the layman is not able to properly diagnose his own ailments, and that he should not accept medicines that do not come through official channels, the previously named exception as to "simple household remedies" being in the nature of a concession to popular ignorance and prejudice.

The A. M. A. attitude upon the general proposition is thus fairly definite,

and should further definition be required it will no doubt be forthcoming when the neccessity becomes apparent.

The makers of patent medicines may be assumed to have a policy equally well defined; pharmacy alone does not seem to have a definite program, nor have the mass of pharmacists apparently decided upon which side of the fence they will finally drop when the lines are strictly drawn and they are called to act upon a legislative proposition to abolish the patent medicine business entirely.

The Pharmaceutical Program.—It will probably be admitted without argument that all pharmaceutical associations and the great majority of all pharmacists disapprove, absolutely and at all times, of proprietary medicines that are distinctly fraudulent in character, or that contain habit-forming drugs in such proportions as to either tend to create a drug habit or minister to it if already formed, or which contain potent drugs in such quantities as to render them dangerous in the hands of the general public, but beyond this the position of the pharmacist has not been clearly defined.

It is true that the official organ of the A. Ph. A. does not accept the advertisements of medicines advertised directly to the laity, and that on many occasions the Association has accepted with approval papers and resolutions condemning the proprietary medicine business in general terms. It is also true that during its more than sixty-one years of existence it has been constant in its advocacy of the use of official preparations, and that it entered upon the publication of the National Formulary admittedly for the purpose of providing physicians with a list of open formula preparations that might be prescribed in place of many similar proprietary articles.

It must be admitted, however, that the A. Ph. A. has apparently recognized a distinction beteween the retail druggist's "own make" of such preparations and the widely advertised secret patents, upon the ground that knowing the composition of the former he can conscientiously recommend them. As such preparations are as much proprietary medicines as any others, this concession at least partially clouds its title to a consistent and thorough-going opposition to such medicines as a class.

Beyond this somewhat qualified position of the A. Ph. A., there has been no consistent attempt, at least so far as is visible to the naked eye, to declare any definite general policy upon the subject, nor any attempt to draw a dividing line between legitimate and illegitimate preparations, or between proper and improper methods of exploiting them. There has been no specific declaration as to whether the business as a whole should be considered as an outlaw, or only that portion of it that deals in distinctly fraudulent and dangerous preparations; no attempt to formulate any authoritative declaration as to what should be the attitude of the craft as a whole upon this question, or as to the attitude which it should assume toward projected legislation affecting the advertising and sale of proprietary medicines.

For want of definite and authoritative leadership, therefore, each member of the craft has hitherto been a law unto himself. Among pharmacists we find all grades and degrees of opinions, some as intolerant of patent medicines of all kinds as the most radical of physicians; others as tolerant in their attitude as the most rampant patent medicine manufacturer could desire; while the

majority have been in the main indifferent, or content to recognize a more or less hazy distinction between legitimate and illegitimate ones; placing in the former class those which contain ingredients of approved therapeutic value and not dangerous in the hand of the average citizen, and in the latter class those possessed of the opposite qualities; or advertised in extravagant or misleading terms, or for the cure of diseases generally recognized as being practically incurable.

Now it would seem that the time has come for a more definite declaration of policy upon this vexed question, and for the associations which represent pharmacy to declare themselves upon the general proposition in terms so clear and definite that all men may know where they stand.

Though some may contend to the contrary, there is little doubt but that the average druggist has a sincere desire to deal justly with both public and the medical profession, and that he would welcome any authoritative guide by which he might regulate his conduct, and that if such a guide were provided he would be inclined to follow it.

A Tentative Proposition.—As a tentative proposition the writer suggests that the A. Ph. A. appoint a Council on Proprietary Medicines, to inaugurate the work, and to determine, first of all, whether there is or can be such a thing as a legitimate proprietary medicine which a druggist may conscientiously recommend and sell to the general public, and whether on the whole the public is benefited or injured by the use of such ready-made medicines. If these two questions can be answered in the affirmative, the next step should be to determine whether it is possible to draw a distinct line of demarcation between legitimate and illegitimate remedies, whether compounded by the druggist himself, by druggists' cooperative societies, or by those who are neither.

This council should also be charged with the duty of formulating rules for distinguishing between proper and improper methods of advertising, and to do whatever else may be nesessary to the first step toward bringing order into a chaotic and disordered business.

It may be objected that such a tribunal already exists in the A. M. A. Council on Pharmacy and Chemistry, but this objection is not valid, because the prime reason for the new council would be to enable organized pharmacy to place itself on record on this question. Organized medicine has already taken its stand, now let pharmacy take its courage in its hands and do likewise, for until some distinctly representative pharmaceutical body shall have passed on the subject, pharmacy will not have discharged its duty either to itself or to society, and individual pharmacists will be at liberty to claim the lack of authoritative declaration as an excuse for playing fast and loose with the patent medicine business.

The settlement of this question is pharmacy's own business, and pharmacy should take hold with courageous hands and settle it.

J. H. BEAL.

Book Reviews

E. MERCK'S ANNUAL REPORT OF RECENT ADVANCES IN PHARMACEUTICAL CHEMISTRY AND THERAPEUTICS. Vol. XXV; 511 pages; paper binding. E. Merck's Chemical Works Darmstadt. American distributors, Merck & Co., New York.

This annual compilation of chemical and therapeutic information originated in brief reports of a similar character which were issued at irregular intervals by their distinguished editor, E. Merck, beginning in 1870. From the first the value and impartiality of these communications were so well recognized that the increasing demand for them soon led to their issue as an annual publication. The total distribution at the present time amounts to 60,000 copies annually, divided among the four languages, German, English, French and Russian.

According to the established policy of the editor, the report deals with medicinal products which have a well recognized scientific and professional interest, and hence excludes from consideration remedies of secret composition, or which for other reasons are of doubtful character.

Notwithstanding its connection with a commercial enterprise, the report is now, and always has been, distinguished by its entire impartiality, the medicaments produced by rival concerns being given as fair treatment as those originating with the house of Merck.

The present volume differs from its predecessors, mainly in its greater size. In line with the policy established several years ago, it contains chapters devoted to the special consideration of certain important groups of drugs and medicinal preparations, and giving a fairly comprehensive review of the literature concerning such pharmacological groups. Examples of this kind are found in the present volume in the chapters devoted to the consideration of the "glycerophosphates," and the "digitalis glucosides and allied drugs."

The publishers announce that the stock of copies remaining for distribution is limited, but that as long as any are available single copies will be sent to physicians and pharmacists who apply for them, sending 15 cents for postage, no charge being made for the volume itself. J. H. BEAL.

PHARMACAL PLANTS AND THEIR CULTURE. By Albert Schneider, M. D., Ph. D. California State Board of Forestry, Sacramento, Calif. 175 pages; paper.

The above volume, issued under the auspices of the California State Board of Forestry and compiled by Dr. Albert Schneider of the California College of Pharmacy, is intended to give a general review of the plants of that state which have or have had some use in pharmacy and medicine.

Chapter one is devoted to general considerations, under which are discussed climatic conditions and distribution of flora, lists of California drugs obtainable

in the market, lists of drugs that may be collected profitably, general suggestions for the cultivation of medicinal drugs in California, cultural methods, collecting and preparing drugs for market, etc., etc. Chapter two presents a review of the literature relating to the subject, both under the names of their respective authors and by subjects. Chapter three deals with a list of drug plants which it is presumed may be profitably cultivated in California with suggestions regarding culture, collection, curing, marketing, etc. Chapter four is devoted to an account of the native and introduced medicinal and poisonous drugs of the state, and is accompanied by many interesting notes relating to the use of the various native drugs by the Indians, their possible utilization for various purposes, etc., etc. This chapter comprises the greater portion of the book, covering over 100 pages and names and describes briefly a total of 869 species.

A large amount of valuable and interesting information is given under the respective titles, and the publication should result in greatly increased interest in the subject of drug cultivation in California and elsewhere. J. H. BEAL.

OIL OF CHENOPODIUM IN HOOKWORM DISEASE.

Schuffner and Vervoort state that in their practice at Delhi in the last fifteen years they have found uncinariasis extraordinarily prevalent. In the last eight months they have been giving oil of chenopodium a thorough trial in 1,457 cases, comparing the efficacy with that of thymol, naphthol and other vermifuges. Compared with eucalyptus oil with a coefficient of 38, naphthol with 68 and thymol with 83, oil of chenopodium surpassed them all with 91. Another great advantage is that it expels ascarides with the hookworms, thus impressing the minds of the patients much more than when the insignificant hookworms alone are expelled. It is also comparatively pleasant to take.—*Journ. A. M. A., Vol. LX, p.* 706.

A GREAT COMBINATION.

One druggist makes a solid, substantial success of his business because he is shrewd at the buying end; another because is shrewd at the selling end; another because he has what his customers demand and of the very best quality. What an equipment has that druggist who includes all three in his business dealings.—*The Spatula.*

Section on Scientific Papers

Papers Presented at the Sixtieth Annual Convention

THE PRODUCTION AND VALUATION OF BELLADONNA IN MINNEAPOLIS.

MANLY H. HAYNES, PHM. B., AND E. L. NEWCOMB, P. D., MINNEAPOLIS, MINN.

Recent discussions on the advisability of admitting the entire plant of Atropa Belladonna into the Pharmacopoeia to represent the drugs Belladonnae Radix and Belladonnae Folia make it important to investigate carefully the production of this drug and the valuation of the various parts of the plant.

Belladonnae Folia and Belladonnae Radix are derived mostly at the present time from cultivated plants and, although the methods of cultivation are no doubt well understood by those who grow the plants commercially, it may be of interest and some value to give the methods used and observations recorded in research along this line carried on at the medicinal plant garden of the College of Pharmacy of the University of Minnesota.

Many investigators have reported difficulty in germinating the seed of Atropa Belladonna and some even consider that it is much easier and more economical to propagate by means of root-cuttings. Propagation by means of root-cuttings is essential in the work of the plant breeder to enable him to directly develop plants which possess the desired characteristics. Propagation from seed, however, is the method more frequently employed, as this yields a much larger number of plants in a given time. When the desired strains have been produced by plant breeding and are fairly well established, then propagation from the seeds of those strains may be carried on, provided proper care is taken to prevent reversion.

Borneman[1], it appears, succeeded best when he planted the seeds under a cold cover in the early part of April, for he thus secured germination of seventy-five percent. Twenty-five percent of these seedlings, however, were lost when transplanted to the open field.

Schneider[2], in a rather lengthy article, discussed seeding in cold frames and in the open and reported very satisfactory results in growing plants in a cold frame. Field sowing, however, was not satisfactory as the seeds require some time to germinate and are liable to be smothered out by weeds or hindered in their growth by the surface soil becoming packed. In connection with this work a number of methods were tried to shorten the time of germination, but these were for the most part without success.

Culture Experiments at Minneapolis.—At the College of Pharmacy of the University of Minnesota, a large number of plantings were made under varying

conditions, but as yet no way has been found to materially shorten the period of germination. It has been noted, however, that in nearly every planting test a small percent of the seed would germinate in from two to three weeks, the remainder requiring four to five weeks when kept moist and at a temperature of from fifty to sixty degrees Fahrenheit. Three percent of one lot that was placed over hot water pipes germinated in eight days while the remaining seeds that germinated required five weeks. A similar variation has been noted in the time required for germination of seeds of a number of other drug plants. This indicates the need of study of the germinating qualities of seed from fruit collected at different stages of maturity. Various temperatures have been tried here to hasten the germination, but with indifferent success. Home-grown seed germinated about one week earlier, under the same conditions, than imported seed. (This is also the experience of Schneider). The young plants are rather tender after a rapid, forced growth at warm temperature and a large percentage usually die if planted in the open. However, by watering the young seedlings sparingly and increasing their exposure, their growth is somewhat stunted, but they thus become very hardy and stand transplanting in the open with very little loss. Well-rooted plants germinated under these conditions were placed out into the open drug garden about June 1, and after they became well rooted in the open field, they withstood a great deal of dry weather, probably because of the reserve in the starchy roots. The amount of foliage produced during such periods was much less than when the plants were abundantly watered. Some of the plants were retarded in their growth by the attack of green aphis and white fly. Whale oil soap and tobacco water proved efficient in eradicating these insects and the plants soon recovered.

Practically every sample of seed tested yielded in time a large percent of plants, although some of the seed was known to be several years old. The results would indicate that the seed of Atropa Belladonna retains its vitality for a long time. The germinating period, however, does not seem to materially increase with the age of the seed.

Under normal conditions of temperature, the young seedlings if provided with abundant water and good drainage grow quite rapidly and are usually sufficiently large for field planting within eight weeks.

While it is generally considered that Atropa Belladonna will not survive winters where the temperature drops to ten degrees Fahrenheit, it is interesting to note that during the winter of 1910-11, one of a number of plants purchased in Philadelphia and planted in the drug garden of the College of Pharmacy of the University of Minnesota where the experiments recorded in this paper were carried on, in the fall of 1910 lived outside through the winter during which the temperature went as low as twenty-five degrees below zero (Fahrenheit). During the past winter (1911-12) two plants, which made a very strong growth from seedlings planted the spring before, were protected with only a small amount of litter, but survived through a temperature of thirty-three degrees below zero (Fahrenheit). Five seedlings which were not planted out in the open but hardened by being kept in a confined and protected area in the slat-house also survived the winter. While these observations do not warrant any attempt to com-

mercially winter over Belladonna in this region, they indicate that it may be possible by selection to develop perfectly hardy strains of Atropa Belladonna for sections of the country where the temperature is much lower than ten degrees Fahrenheit. Of course it must be borne in mind that in breeding hardy strains a sacrifice must not be made for plants of low alkaloidal value. This phase of the subject will be discussed in a later part of this paper.

In order to develop the most thrifty plants possible the plots devoted to their culture were watered frequently and with this treatment the plants made a very rapid growth. The soil of one plot consisted of a light sandy loam mixed with about six inches of well-rotted peat, which latter had been on the ground for a number of years. The character of this soil being somewhat different from that in which most other investigators have grown the plant, results different from theirs were to be expected. The difference was particularly noted in the root system, there having been developed a large number of fine rootlets while the main tap roots were only of average size. A second plot in which the soil consisted of a rich sandy garden loam produced plants having very thick and long tap roots, many from five to six centimeters in diameter at the crown and thirty to fifty centimeters in length. Only a few fine rootlets were produced by the plants in this second plot.

The overground portions of the plants growing in the sand and peat soil plot made an average growth in height of one meter and produced but one main overground stalk, excepting a few in which the overground stalk was injured by cutworms when the plant was first set out. These few latter plants produced from three to six somewhat shorter and smaller stalks. The plants in the rich garden loam produced one overground stalk each of an average height of 1.2 meters. These latter plants were more vigorous and produced heavier foliage. The average weight of the entire fresh plants from the sandy peat plot was four hundred forty grammes, while the average weight of those from the garden soil was six hundred sixty grammes. All the plants under observation corresponded botanically to what is known as Atropa Belladonna and only slight differences were noted in a few of the plants. Possibly these differences may prove indicators of certain physiological varieties. I regret that I did not record them at the time. The possibilities of developing such strains have been well indicated by Tschirch[3] and True[4]. The development of strains of plants especially valuable for their medicinal qualities is of importance to those who will handle vegetable drugs in the future. No two plants are identical, although they may correspond so closely that they are classed in the same genera and species or even botanical varieties. This individuality is entirely a separate study from that involving the effects of various ecological conditions upon the constituents of plants. The development of the desired individual qualities, with the elimination of the undesired, into permanent traits of character is deserving of careful study. By the application of the law of Mendel, it has been shown that certain desired morphological characters may be reproduced with some degree of certainty in the third generation and we have every reason to believe that with such a variation there will be not only a change in the form of the plant, but also in the constituents. In other words, the possibility of producing by plant breeding, for example Belladonna,

with a uniform but large amount of mydriatic alkaloids, is promising. On the other hand, it has been shown that plants of very closely related species cling to their individual characteristics with great tenacity. It has been shown by foreign workers that scions of a non-HCN rosaceous plant when grafted upon the root-stalk of a species of the same family yielding a large amount of HCN, made a vigorous growth but developed none of the cyanogenetic glucosides, the root-stalk supplying the nutrition for the growth of the grafts in the usual manner, but not causing any change in the chemical composition. Thus it would seem that the work is not without some perplexing problems.

Histology.—Transverse sections were made from the roots of twenty separate plants grown in the drug garden and these all corresponded to typical Atropa Belladonna roots, showing trachæa with bordered pores, spheroids of calcium oxalate and the characteristic starch grains and the typical structure of Belladonna. Very few fibers were present. No raphides of calcium oxalate were found. Sections were also made of a large number of leaves and these conformed histologically to the type specimens of Belladonna.

Assays.—The following assays were made from drugs collected from the various plants as indicated:

On September 8 the first-year plants were flowering and fruiting abundantly and at this time twenty plants from the sand-peat soil plot were taken up and the roots separated and dried in a large drying oven at a temperature of about 90° C. The leaves and tops were air dried in the laboratory.

Seven or eight plants were cut off at the ground and air dried in the laboratory. These were then separated into two portions. The first, Sample A1, which consisted of the tops and small stems under five millimeters in diameter, fresh, assayed 0.4046 and 0.3931 percent, respectively, being above the U. S. Pharmacopœial requirement of 0.30 percent. Sample A2, which consisted of stems over five millimeters in diameter, fresh, assayed 0.37 and 0.37 percent. The roots from one plant below the crown yielded 0.2691 and 0.2601 percent of alkaloids. One sample consisting of roots deprived of crown and rootlets and representing the roots from several plants yielded 0.42 and 0.42 percent of alkaloids. The small rootlets, which were easily detached from the roots after drying, were reserved separately for assay and yielded 0.6027 and 0.6256 percent. One whole plant consisting of leaves, stems, fruits, flowers, roots and rootlets yielded when assayed 0.261 and 0.266 percent of alkaloids.

The young white shoots from fourteen plants which were being wintered over in a root cellar were collected from the plants and dried. These sprouts lost 95.5 percent of moisture upon drying and assayed 0.688 percent of alkaloids. The plants growing in the rich garden loam were not disturbed until spring when upon assay the root of one plant gave a valuation of 0.345 percent of alkaloids.

The results of various investigators have shown more or less variation of the alkaloidal content of Atropa Belladonna grown under different conditions. Rippetoe[5], on working with leaves obtained from plants cultivated in the Shenandoah Valley, found that leaves collected from plants in September assayed 0.32 percent. The seed for these plants was sown in January of the same year and transplanted several times before being set out in the open. About 66 percent of

the plants survived the winter and leaves collected from the plants the following July assayed 0.68 percent. Leaves collected from the plants in October yielded 0.48 percent and the roots collected in the some month assayed 0.38 percent.

Experiments[6] carried on in the garden of medicinal plants in Golden Gate Park, San Francisco, on a "made soil" consisting of sand and dirt hauled in, showed the climate to be well adapted to the culture of Belladonna. The leaves and stems of the third and fourth years' growth showed an alkaloidal content of from 0.4 to 0.8 percent of alkaloids; the stem alone gave an alkaloidal value of 0.5 percent. Results obtained in this laboratory show that stems of a diameter larger than five millimeters do not show as high an alkaloidal value as the smaller stems. The results obtained on the assay of an entire plant grown in the sand-peat plot are relatively iow, owing partly to the amount of large stems present. A closer observation of the results indicates considerable variation in different plants. The root and tops, exclusive of large stems, when assayed appeared to yield a drug of good quality.

Two very interesting points were noted; first, that the fine rootlets which are usually lost to the commercial drug showed a high alkaloidal content as previously stated, of 0.60 percent, and second, the young sprouts upon starting in the spring assayed 0.688 percent.

Rippetoe's results would tend to show that the maximum alkaloidal content is reached in the leaves about July when the content begins to decrease. Whether this alkaloid is lost in the plant processes or whether it is returned to the root is a question. If it is true that the alkaloid is returned to the root after a certain period, then plants which have been deprived of part of their leaves would yield roots low in alkaloids if collected the same season. If, however, the whole plant be collected the whole of the alkaloid is obtained, but the reduction in alkaloidal percentage, due to the presence of the large stems, would probably materially decrease the value of the drug. On the other hand, if the leaves are collected the first year and the roots allowed to remain to grow the following year and the foliage allowed to grow unmolested and to dry on the plant, the root would then probably yield a high percentage of alkaloid. In this way the crops could be gathered alternately from various plants, new plants being started each year to replace the roots used for the production of the drug.

The roots of one plant grown on the garden soil, upon which the tops were allowed to die and which had started to sprout in the spring, yielded upon assay 0.345 percent. If the root had been assayed just previously to the time of sprouting, it would probably have given a much higher result as it has before been stated that the sprouts contain a large amount of alkaloid which is derived directly from the constructive metabolism carried on by the root.

It has been indicated by Tschirch[7] that under certain conditions plants may be forced to produce amounts of alkaloids far in excess of what they ordinarily produce. The production of Cinchona, containing 0.16 percent of alkaloids by the Dutch in Java is a fine example of what may be done along pharmaco-physiologic lines. Thus with Atropa Belladonna the conditions under which the plant can be forced to produce a maximum amount of alkaloid must be carefully studied. This work involves careful study of soil and climatic conditions.

It appears from results so far obtained here that Atropa Belladonna can be successfully cultivated in Minnesota, if due care is taken in the germination of seeds and the handling of young plants. The development of perfectly hardy strains, however, is a matter which will take much experimenting and careful study. The results of this work point out a number of other lines which must be followed up before certain questions can be answered and much work will need to be done before the cultivation of Atropa Belladonna is a commercial possibility for Minnesota.

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[3]Tschirch—Pharm. Era, November, 1911.
[4]True—Proc. A. Ph. A., 1909, p. 827.
[5]Rippetoe—Proc. A. Ph. A., 1909, p. 834.
[6]Schneider—Proc. A. Ph. A., 1909, p. 833.
[7]Tschirch—Pharm. Era, November, 1911.

THE MEDICINAL PLANT GARDEN OF THE COLLEGE OF PHARMACY OF THE UNIVERSITY OF MINNESOTA, June 19, 1912.

CRUDE GELSEMININE AND ITS POSSIBLE CONSTITUENTS.

L. E. SAYRE, LAWRENCE, KANSAS.

In reports of the proceedings of this section there will be found, for several years past, a record of a continuous series of experiments, which have given a clearer conception of the nature of that uncrystallizable alkaloid, named by Thompson *Gelseminine*.

In the last paper, the writer reported that from this alkaloid could be extracted another which, if finally proven to exist, he would name *Gelsemoidine*. It was suggested that this Gelsemoidine could be separated from Gelseminine by alkaline solvents—the former being soluble, the latter insoluble in such a solution. Our work this year, upon a new lot of drug (50 pounds) has given us an opportunity to collect more of this crude alkaloid, Gelseminine and study it more thoroughly.

Fifty pounds of the drug were extracted first with Petroleum Ether, the drug dried and exhausted with 95 percent alcohol. The alcohol percolate was concentrated to soft extract in a vacuum. This soft extract was extracted with benzol (using a total of 4000 cc.) after the addition of 75 cc. 26 percent ammonia solution. The benzol extractions were washed out with 5 portions (300 cc. each) of 2 percent H_2SO_4. The acid solution shaken with four portions (500 cc. each) of chloroform to remove the so-called Gelsemic Acid (3.9 gm. of crude acid were recovered.)

The purified acid solution (after making alkaline) was shaken out with ether-chloroform (5 to 1) using 2000 cc. in all. The filtered solution was then concentrated in vacuum to small volume and set aside. Crystals of Gelsemine Hydrochloride (5.6 gm.) were deposited. The supernatant liquid would not crystallize on further concentration, but left a gummy mass (13 gm.) of Thompson's Gelseminine hydrochloride.

It should be stated in passing, that the dregs (drug exhausted with alcohol, above referred to) were again extracted with KOH solution. This alkaline percolate was washed with chloroform, and the chloroform solution put through a similar treatment as above. It was found that the alcohol-menstruum failed to exhaust the drug, as about 1.5 gm. each of Gelsemic Acid and Gelseminine were obtained, in addition, by this process.

The above Gelseminine Hydrochloride (crude) was taken up for special investigation. Previous study of this uncrystallizable alkaloid indicated that it was composed of two alkaloids, one soluble, the other insoluble in weak alkali. (See report of, in Jour. Amer. Phar. Asso'n. May, '12). This method of separation (by the use of alkaline solvent) was repeated and the two (supposedly different) alkaloids were separately purified, and then tested with the usual alkaloidal reagents for identification. To my surprise exactly similar color reactions were obtained. The characteristic color reaction for the purified alkaloid being: with manganese dioxide and sulphuric acid it gives a violet color which soon changes to dark green and finally to a dark blue, remaining about two hours.

If the alkaloid is impure by containing even a small quantity of Gelsemic Acid or Ammonium Chloride the above reagents give a reddish purple color which changes to a green and, in about five minutes, to a dark brown color. This is worthy of note, as one may be tolerably sure of the elimination of these impurities when this latter color reaction disappears. These impurities are very likely to contaminate the product, therefore it is a useful test.

The fact that these two seemingly separated alkaloids gave similar color tests led to the suspicion that they might be the same. Physiological tests confirmed this suspicion. On redissolving the portion (supposedly insoluble in alkaline solvent), denominated Gelseminine, in acidulated water precipitating again with ammonia, and persistently washing again the fresh precipitate it finally yielded to the solvent action. This fact naturally leads to the conclusion that if there be two alkaloids in Gelseminine the method of separation proposed is not practicable as one is soluble with difficulty and the other is also soluble in alkaline liquids. That there are two alkaloids in this amorphous substance is confirmed by the investigation of C. W. Moore of Burroughs and Wellcome Laboratory, (see Jour. Chem. Soct'y. Nov. 1910, No. LXXVII, p. 2223). This author, as quoted in a former paper, affirms the existence of two amorphous alkaloids besides the crystalline Gelsemine, in gelsemium. He says one of these has more basic properties than the other. I shall endeavor to obtain his method of separation so that I may test them physiologically.

Further experiments with the amorphous gelseminine have shown, what was not before suspected, that its salt, hydrochloride, is partly soluble in ether and in chloroform. Hence any acid solution of the alkaloid washed with the immiscible solvents to remove Gelsemic acid and extraneous matter, will take out appreciable quantities of this active ingredient.

Our thanks are here expressed to Chas. Vanderkleed of Mulford and Company for the crude extractions.

Section on Education and Legislation

Papers Presented at the Sixtieth Annual Convention

PHARMACEUTICAL DEGREES.

OTTO A. WALL, PH. G., M. D., ST. LOUIS, MO.

In these days of ever-increasing numbers of institutions of learning, vying with each other to invent new degrees for old as well as new branches of study, there have come into use so many abbreviations for degrees, titles, names of institutions, societies, etc., that it is worth while for us to consider some of these degrees, their abbreviations, and the academic usage underlying their formation; and such a consideration seems especially called for at present among pharmacists, on account of the multiplicity of degrees conferred by the different schools of pharmacy, and the recently published idea, originating in pharmaceutical circles, that some of them are "fraudulent."

Formerly, and originally, the only degree conferred in pharmacy was that of "Graduate in Pharmacy" (Ph. G.); the noun "graduate" means: "One who has been graduated by a college or other institution of learning; hence, one who has completed a course of anything; as, a graduate in law, etc." (Standard Dictionary.) The verb "graduate" means: "To admit to an academic degree at the end of a course of instruction in a school, especially a college or university;" a popular but erroneous use of the term is: To receive a degree, as from a college or university; as, he graduated in medicine." In other words, the verb graduate is an active verb when referring to the college, but passive when referring to the one who is graduated.

It follows from these definitions, that, strictly speaking, "Graduate in Pharmacy," besides not being perfectly correct in grammatical form, is not in itself a degree, in the academic sense; it means: "Graduated in Pharmacy" and merely shows that a certain course of study has been satisfactorily completed.

The word "degree" means: "One of a succession of steps, grades or stages; a measured or estimated part of upward or downward movement; as, degrees of excellence, Masonic degrees, etc."

The Academic Degrees.—The most commonly employed academic degrees are three in number: *Baccalaureus,* Bachelor; *Magister,* Master; and *Doctor,* Doctor. These degrees may be applied to any study whatever. The right to confer these degrees is usually granted in a charter given by the state to the institution that confers the degrees.

Let us consider these degrees seriatim. The Bachelor degree is an old one; but this word has nothing in common with the same word meaning an unmarried man; it may be conferred on women as well as on men. The name of the degree

was probably derived from an old French word, *bachelerie* or *bachelage*, implying apprenticeship, youth, inexperience. (See Br. Enc.); it is conferred as the "first and lowest degree in any study in which degrees are given."

When conferred in schools of pharmacy, it implies "apprenticeship" for it is conferred on students who have not yet had practical experience in the drug business.

Some claim that the word "bachelor" for an academic degree was derived from the Latin word *"baccalaris"* or *"baccalaureus"*; there is no such Latin word; it does not occur in classic or post-classic Latin; it was not used by any Latin author prior to A. D. 1450, but seems to have been "barbarously formed" in comparatively modern times, in an attempt to latinize *bachelerie* or *bachelage*, after the latter had been introduced as an academic title. The usual form for this degree in modern Latin writing or in diplomas is *"baccalaureus,"* m. or *"baccalaurea,"* f.

The Bachelor degree does not imply great learning; if anything, it implies the contrary, unfinished education, for many Bachelors in a science continue their university studies to secure the Doctorate in the same science. The Bachelor degree does not depend on any specified or definite length of time of study, for it is granted by universities, etc., after one, two, three or four years of study, depending on the nature of the studies.

As far as the writer knows, every college of pharmacy which confers the degree of Bachelor of Pharmacy represents it as its first and lowest degree, and no college ever made any other, or "fraudulent," claims as to its meaning.

The Doctor degree *(Doctor)* is the highest degree for which a student may apply. It means: "The highest degree, as of Divinity, Law, etc., as evidence of learning and ability to teach"; the word itself is derived from the verb *doceo*, to teach. When it is conferred in compliance with these qualifications it is a proper degree in pharmacy, but it should not be granted as the *first* and *lowest* degree, as is done by some schools of pharmacy; it is contrary to academic precedents, usages, and traditions, to cheapen the doctorate in such a manner.

The Master degree *(Magister)* was originally bestowed only as a very high honor and compliment on men who had been of signal service and were of exalted rank in their profession; something like LL. D. is now. While this high estimation of the *Magister* degree is not as strictly adhered to as formerly, the degree being now given to students for one or more years post-graduate work after having received the Bachelor degree, it is nevertheless far too high a degree to be given as the *first* degree in pharmacy, as is done by some of the colleges of pharmacy.

To certify in a diploma that a student fresh from college can be a Master of Pharmacy, in the world-wide and time-honored sense of the degree, shows a woeful lack of common sense, or a lamentable disregard for the truth.

The Difference Between Degrees and Abbreviations.—When an educational institution confers a degree, it confers the full degree—not its abbreviation; in most diplomas the abbreviations of the degrees are not mentioned. Any holder of any degree is entitled to use any abbreviation of it that he prefers, provided that it is sanctioned by usage or constructed in accordance with academic precedents and customs. The abbreviations are not the degrees!

Correct Abbreviations.—In a properly constructed abbreviation each word should be contracted so that it may be recognized without being misunderstood when standing alone, without context; this requirement, however, is not generally applied to the abbreviations for the academic degrees: Bachelor, B.; Doctor, D.; and Magister, M. Only, the holders of these degrees must not imagine they have any exclusive rights to the use of these abbreviations, for all these letters stand for many different meanings.

The Universal Dictionary of the English Language (1897), uses the following abbreviations, which are fairly correct, and may serve as examples of what abbreviations should be:

Agric., agriculture;
Archeol., archeology;
Astrol., astrology;
Astron., astronomy;
Biol., biology;
Bot., botany;
Chem., chemistry;
Entom., entomology;
Etym., etymology;
Geol., geology;
Math., mathematics;
Mech., mechanics;
Med., medicine;
Metal., metallurgy;
Metaph., metaphysics;
Phar., pharmacy;
Phil., philosophy;
Philol., philology;
Phot., photography;
Phys., physiology;
Psychol., psychology;
Surg., surgery;
Theol., theology;
Zoöl., zoölogy.

We also quote a few such abbreviations from the Standard Dictionary:

Archt., architect;
B. Acct., Bachelor of Accounting;
B. Chem., Bachelor of Chemistry;
D. Bot., Doctor of Botany;
D. Nat. Phil., Doctor of Natural Philosophy.

But suppose the Bachelor of Chemistry should write B. C., as is frequently done; while it is perfectly proper that he should use this abbreviation, yet it is ambiguous for him to do so, for the same abbreviation is also used for Bachelor of Surgery (Bachelor of Chirurgy, *Chirurgiae Baccalaureus);* it is also used by some institutions for the degree of Bachelor of Commerce (B. C.). The abbreviations B. C. or C. B. may therefore be used for these three branches of study, but none of the three can claim exclusive right to the use of C. B. or B. C.; and if the holder of one of these degrees feels aggrieved at the ambiguity of it, he has the remedy in his own control—he needs only to write the correct abbreviation for his own degree: *B. Chem.; B. Chirurg.;* or *B. Com.,* respectively.

The disadvantage of using initial abbreviations appears, for instance, in the widely used A. C. *(Ante Christum,* before Christ); but this may also mean A. C. *(Anno Christi,* in the year of Our Lord) or A. C. (After Christ)—two exactly opposite meanings!

The Standard Dictionary in an extensive list, mentions among many others the following syllabic abbreviations, saying of them that they are "commonly used by English-speaking peoples":

Bach., Bachelor;
Phar., Pharm., pharmaceutical, pharmacopoeia, pharmacy;
Pharmacol., pharmacology;
Phil., Philos., philosopher, philosophical, p hilosophy;
Phil. S., Ph. S., American Philological Society;
Phil. Trans., Philosophical Transactions;
Phot., Photog., photographic, photography;
Physiol, physiological, physiology.

Most of these are correct abbreviations because they are sufficiently complete not to be easily misunderstood. But even among these few abbreviations here quoted, there are improper or ambiguous ones; "phil." may mean philology as well as philosophy. On the editorial staff of the Standard Dictionary there were

more than a score of "Ph. D's," but in this list they use Ph. only for philology, and not for philosophy or pharmacy. Recently the idea has been advanced that "it is an unpardonable fraud" to use Ph. in connection with an academic degree for anything but philosophy! This is a purely notional assumption, devoid of even a trace of justification in academic precedents or customs; the use of Ph. or phil. for either philosophy or philology and of Ph. for Pharmacy cannot be fraudulent, for long-established usage tolerates these abbreviations for these three studies.

Ambiguity.—All abbreviations or contractions of names of degrees, titles, societies, etc., or of any words whatever, to initials only, must necessarily be ambiguous!

Ambiguity means "capable of being understood in more senses than one"; it is not even remotely associated with the idea of deception or fraud. Ambiguity in the meanings of alphabetical characters dates back to the very origin of alphabets, in fact, to even earlier times when ikonographs or ideographs conveyed ideas, Thus: Among the ideographs from which the cuneiform and hieroglyphic alphabets were developed (Assyria, Babylon, Ninevah, Egypt 2000 B. C.), the circle was a symbol meaning the *sun;* it also meant *light, splendor, day;* it furthermore stood for *God, Creator, Eternity, nature,* and a lot of other concepts.

A half-circle or crescent meant the *moon,* or a *month,* and also *Kybele, Astarte, Diana,* and some other things. In Ancient Egypt the horizontal "pointed oval" meant a *mouth,* and later it stood for the letters l and r, the one sign for the two sounds, just as c stands for the sounds of s and k in English, and the sound th in Spanish.

In the course of time these old ideographs developed into letters, or signs for simple phonetic sounds; and from that time (about 4000 years ago) until now there has never been a time when some letters did not have more than one sound or stand for more than one meaning. It has been contended, quite recently, and for the first time as far as the writer knows, that it is "fraudulent" to use one alphabetical character for two or more meanings!

This charge was made in connection with the character Ph. used to mean pharmacy; but this charge might be applied with equal force against those who use Ph. to mean philosophy or philology, because this abbreviation has been used for many decades for all of these studies, and none of these studies can have any exclusive right to this abbreviation.

Ambiguous Abbreviations.—Under the heading "Degrees" the Standard Dictionary gives a list stating the degrees commonly granted and their current abbreviations, as they were in actual use prior to the time when this work was compiled, edited and published (the latter in 1895); compilation began many years previously, possibly now about thirty years ago.

Many of the abbreviations in this list are contractions to initials only—therefore of necessity ambiguous; but custom sanctioned (or tolerated) the use of such initial abbreviations and any institution has a right to use any initial abbreviations that fit its degrees.

There are no laws, and can be on laws, of copyright for initial abbreviations; as far as academic usage is concerned initial abbreviations are outlaws beyond the pale of protection against use by others for other purposes.

No institution can claim exclusive right to an ambiguous initial abbreviation for any particular study. Alphabetical characters, and any sequence thereof as initials, are free for the use of all. Any institution is entitled to use initial abbreviations for its own degrees, and if there are any who feel aggrieved at the resulting ambiguity, they can use correct academic syllabic abbreviations for their own degrees.

We quote the following abbreviations from the Standard Dictionary:

P. D., Ph. D., D. P., D. Phil., Doctor of Philosophy;
P. D.. Ph. D., D. P., Phar. D., Pharm. D, Doctor of Pharmacy.

Ph. D. was recognized as an abbreviation for a degree in pharmacy as well as for a degree in philosophy! Dictionaries do not originate definitions or abbreviations, but simply record them when they have become firmly established in the language by usage and custom. Usage, therefore, sanctioned Ph. D. for pharmacy as well as for philosophy many years ago, so that this abbreviation had been "long established" for a degree in pharmacy long before any college commenced to confer the degree of Bachelor of Pharmacy.

Of course, the abbreviations will be different as we use the Latin or English names of the degrees:

P. D., Ph. D., *Philosophiae Doctor;*
D. P., D. Ph., D. Phil., Doctor of Philosophy;
P. D., Ph. D., Phar. D., Pharm. D., *Pharmaciae Doctor;*
D. P., D. Ph., D. Phar., D. Pharm., Doctor of Pharmacy;

The abbreviations for the bachelor degree in any study follow the construction of the Doctorate degree, by simply substituting B. for D., thus:

P. B., Ph. B., Phil. B., *Philosophiae Baccalaureus;*

B. P., B. Ph., B. Phil., Bachelor of Philosophy; and by strict analogy and strict adherence to academic precedents and usage, the abbreviations for Bachelor of Pharmacy are:

P. B., Ph. B., Phar. B., Pharm. B., *Pharmaciae Baccalaureus;*
B. P., B. Ph., B. Phar., B. Pharm., Bachelor of Pharmacy.

Duplication of Abbreviations.—Suppose we should all agree that initial abbreviations are undignified, improper, ambiguous and generally objectionable, yet, since they have been tolerated and sanctioned by academic usage for many decades they cannot at this late day be called fraudulent. Fraud means "an act of deliberate deception"; usually for gain, but in all cases deception is a necessary part of fraud! For instance: If some one claimed to be connected with the C. B. C. of St. Louis, and attempted on the strength of such connection to obtain a favor from some one connected with a C. B. C (Christian Brothers' College), without really being connected with a Christian Brothers' College himself, that would be a fraud; but to simply claim to be connected with the C. B. C. of St. Louis, without being connected with a Christian Brothers' College, is not a fraud if he is a member of the C. B. C. (Century Boat Club) of St. Louis. Unless deliberate intention to deceive can be proven in connection with the use of any ambiguous abbreviation, a charge of fraud is unwarranted by academic precedents and usage.

Any man has a right to use his own initials, no matter how many thousand other persons in the world may have the same initials; the same is true of any society, college, university, etc., or for any name, title, degree, phrase or word whatever.

Initials as abbreviations are proper and lawful under any and all circumstances. They are used for religious, scientific, social and business purposes: I. H. S.,* D. D., Y. M. C. A., W. C. T. U., A. M. A., A. Ph. A., N. A. R. D., R. S. V. P., C. O. D., F. O. B., etc.; even for slang: N. G., T. W. P. D. Q., D. B., and G. B.; and under all conditions they are O. K. if they are the initials for the name, title, degree, word or phrase to which they apply.

Let us consider the letter B.; while it is used for the Bachelor degree it is also used for the following:

B.—Baptist, Baron, Baseball, Bath, Bay, *Beatus* or *Beata,* Before, *Bene, Benedictus,* Benevolent, Board, Bible, -bodied, Book, Botanical, Bounty; Brethren, Britain, Britannica, British, Brotherhood, etc.

The letter P. has been suggested as an abbreviation for pharmacy—"to prevent ambiguity," we suppose; but it stands for many other words:

P.—Pacific, Patent, Paternity, Patriarch, Paulus, Peace, Peoples, Petrus, Pharmaceutical, Pharmacopœia, Philological, Philosophical, Plea, Pontifex, *post* (after), Post (mail service), Presbyterian, President, Prevention, Probate, Procedure, Promotion, Propagation, Protective, Protestant, Publishing, etc.

And we might go on through the alphabet with similar results for many other letters. Nor are single letters only used for several meanings; the following combinations of initials are in use:

C. B. or B. C.—Bachelor of Commerce; Bachelor of Chirurgy or Surgery; Bachelor of Chemistry; B. C., Before Christ;
A. B.—Able-bodied seaman (in the navy); Bachelor of Arts; at bat (in baseball);
B. A.—Bachelor of Arts; British Association for the Advancement of Science;
D. F.—Defender of the Faith; Dean of Faculty; D—— Fool;
F. B.—Fenian Brotherhood; Free Baptists;
F. E. S—Fellow Entomological Society; Fellow Ethnological Society;
P. D.—Doctor of Pharmacy; Doctor of Philosophy; Printer's Devil;
U. S. M.—United States Mail; United States Marine;
U. S. S.—United States Senator; United States Ship; United States Steamer;
U. S. A.—United States of America; United States of Africa; United States Army;
F. M.—Field Marshall; Foreign Missions;
F. R. A. S.—Fellow Royal Asiatic Society; Fellow Royal Astronomical Society;
F. R. H. S.—Fellow Royal Horticultural Society; Fellow Royal Historical Society;
M. P. S.—Member Pharmaceutical Society; Member Philological Society;
B. P.—Primitive Baptists; *Beatus Paulus; Beatus Petrus;* Bachelor of Painting; Bachelor of Philosophy; Bachelor of Pharmacy;

*Even this is ambiguous: *In hoc signo,* or *"Iesus Hominum Salvator"*; who will claim that either of these interpretations is a "fraud," or determine which one is so!

M. B.—Bachelor of Medicine; Bachelor of Music;
D. M. or M. D.—Doctor of Medicine; Doctor of Music; Doctor of Mathematics;
M. E.—Master of Elements; Mechanical Engineer;
L. M.—Licentiate in Medicine; Licentiate in Midwifery;
B. L.—Bachelor of Laws; Bachelor of Literature;
B. E.—Bachelor of Elements; Bachelor of Elocution; Bachelor of Engineering;
A. P. A.—American Pharmaceutical Association (formerly); American Poultry Association; American Protective Association; American Protestant Association; American Photographic Association; and several other A. P. A's.

Evidently, classic usage ignores the question of ambiguity and duplication in initial abbreviations altogether.

What Does Ph. Mean?—"Ph." is an alphabetical sign used to represent the Greek letter "phi"; *it is not two letters, but one;* the initial for pharmacy, philosophy, philology, pharology, and other words of Greek origin beginning with ph is not the letter p, but "phi," which on account of lack of a single type character, is conventionally expressed in Latin, English, German, French, and some other languages by the compound consonant sign ph (pronounced f); in Spanish it is written f., as in filosofia, filologia, and farmacia (pronounced farmathia).

This initial ph cannot properly be divided, although this is often done by people who are either careless or who do not know any better. It is regrettable that this is so often done by pharmacists, as it shows that Pharmacy has not yet attained to the full dignity of a learned profession, although we may take courage from this, that many pharmaceutical associations are changing their former initial P. to Ph.; as: A. Ph. A., Mo. Ph. A., etc.

Ph. is the *only correct initial abbreviation for pharmacy;* it has been used for over a century in our country—for about ninety years in Ph. G. In fact, it was used for pharmacy before philosophers adopted it for their use; when the writer first became interested in College affairs and degrees the Doctors of Philosophy generally wrote "Phil. D." as they do now in European countries. If priority in the use of an ambiguous abbreviation had any weight (as it has not, and cannot have) then pharmacy would have first claim to the abbreviation Ph.; if usage or general opinion determined the matter, there are probably a hundred people in our country to whom Ph. means pharmacy for every dozen to whom it means philosophy; there are probably a hundred people who belong to some Ph. A. (pharmaceutical association) for every one person belonging to a Ph. A. (philosophical association).

But considerations of this kind have no bearing on the question of right or wrong in using the abbreviation.

Abbreviations of Pharmaceutical Degrees.—The following are only some of the variant abbreviations which are tolerated by academic usage, for degrees now granted in pharmacy: Ph. D., P. D., Phar. D., Pharm. D., D. Ph., D. P., D. Phar., D. Pharm., Ph. B., P. B., Phar. B., Pharm. B., B. Ph., B. P., B. Phar., B. Pharm., Ph. G., P. G., Phar. G., Pharm. G., G. Ph., G. P., G. Phar., G. Pharm., Ph. C., P. C., Phar. C., Pharm. C., C. Ph., C. P., C. Phar., C. Pharm., Ph. M., P. M., Phar. M., Pharm. M., M. Ph., M. P., M. Phar., M. Pharm., B. Sc.

Ph., B. Sc. P., B. Sc. Phar., B. Sc. Pharm., Sc. Ph. B., Sc. P. B., Sc. Phar. B., Sc. Pharm. B., Ph. S. B., Ph. B. S., P. S. B., B. P. S., Phar. S. B., Phar. B. S., Pharm. S. B., and Pharm. B. S.

To add to the multiplicity of allowable abbreviations, there are also other methods of abbreviating besides the syllabic and initial. Some are purely arbitrary, as Mo., for Missouri; Phm., or Phr., for pharmacy; others consist of the first and last phonetic signs, or letters, of the words; Me., for Maine; Vt., for Vermont; Ky., for Kentucky; etc.; only two of this latter kind are of interest to us here—Phy., for pharmacy; Dr., for Doctor.

When we add to the above list the many additional forms produced by using the abbreviations: Phm., Phr., and Phy., for pharmacy, Dr., for Doctor, and Ch., for Chemist, the list of abbreviations for degrees in pharmacy becomes quite appalling.

These abbreviations are all properly constructed according to time-honored academic precedents and custom; need we wonder that with the multiplicity of degrees in the many sciences and studies, there should be ambiguity?

What Remedy is There for Ambiguity?—Since the increasing habit of using initial abbreviations is mainly responsible for the present confusion and ambiguity in the use of abbreviations, the only successful remedy would be to discard initial abbreviations and return to the use of proper syllabic abbreviations. There is very little prospect, however, that this will ever be done, as every one will wait for the "other fellow" to do it first, after which there would be no further necessity to do it one's self. It would mean that all our schools would use only such abbreviations as "philol.", "philos.", "pharm.", etc., and even then the graduates would be under no obligation whatever to use such syllabic abbreviations.

The writer believes that initial abbreviations will continue to be used to the end of time, and that efforts to do away with them would be but like Quixotic charges against wind-mills. Let those whose tender souls are torn with anguish to see some one else use an initial abbreviation which they erroneously thought to be their own monopoly, or those who wish to be exact, or who take special pride in their own degrees, use correct syllabic abbreviations and quit worrying about others who prefer to use the ambiguous initial abbreviations.

Meanwhile, no argument or explanation is necessary to convince fair-minded and unprejudiced persons that the use of ambiguous initial abbreviations is not prohibited, but tolerated, if not sanctioned, by academic usage, and that the charge of fraud for using such abbreviations is unjustifiable and unwarranted by and contrary to academic precedents, customs, and traditions.

Section on Practical Pharmacy and Dispensing

Papers Presented at the Sixtieth Annual Convention

IMPROPER CONTAINERS.

B. L. MURRAY, PH. C., B. S., A. M., RAHWAY, N. J.

It has come to my attention in numerous ways that many of the articles sold by the pharmacist are handled in containers not well suited to the proper keeping of the goods. This applies particularly to crude drugs, to chemicals, etc. Many instances are known where the pharmacist has had to suffer the annoyance and expense of explaining to the local Commissioner of Foods and Drugs how it happens that substandard goods are found among his wares. The pharmacist's explanation frequently is that he originally procured goods of proper quality—in fact, always tries to do so—but they sometimes deteriorate on keeping.

Of course we all know that very many of the articles found in our pharmacies do deteriorate in quality upon keeping. Much of this deterioration is at present unavoidable; but it is also true that much of it is avoidable. It is not necessary or advisable today to attempt to review all the means of lessening this avoidable deterioration. But one feature of it will be briefly discussed.

It seems almost unnecessary to say that, if one desires to have good goods, the goods should be kept in proper containers. Just here, however, lies a large part of the trouble of deterioration. Good goods are not always found in good containers. The mistake of putting goods into improper containers is not made by the pharmacist alone, nor is he alone responsible for it. The wholesale houses also are entitled to a share of the discredit; and the same is true even of the manufacturers themselves. Under present conditions, however, the pharmacist is in the best position to remedy the difficulty, and this is the reason for bringing the matter up in this place.

If any one here feels that it is impossible to obtain supplies in proper containers, I think he is mistaken. For nearly, if not quite, all goods, containers that will be desirable are at hand. They are not necessarily the most expensive containers, nor are they necessarily glass bottles. But for almost every article that usually suffers deterioration by drying out, by absorbing water, by the action of the air, by the action of light, by the action of insects, etc., there is a desirable container of some kind or other. It may be tin can, pasteboard carton, glass bottle, paper bag, wooden box, or what not—its one quality should be *suitability* for the goods it is to contain. It must carry the goods well from the producer to the user; it must still be suitable as a preserver of the goods, even after having been opened and reclosed. It must also, though, secondarily, be inexpensive.

I wish to repeat that proper containers just such as these are to be had. But

they must be asked for. And this is the pharmacist's opportunity! *Ask for them.* Do more than that, *insist* on having them. The customs of the trade at present are such that most articles of the kind here referred to are sold in the *cheapest* containers, almost wholly regardless of suitability. It is a mistake, but one that can be remedied. On your orders *specify* the exact containers that are desirable.

This leads to a feature of the question that cannot be overlooked. How is one to know just what kind of container is suitable? It is largely a matter of experience. If your resorcin turns pink, it is a good sign that it is being subjected to dampness and the action of the air. If your sodium carbonate and your borax have turned white, they have been allowed to dry out. Use air-tight containers. It is a matter of experience to decide what particular kind of container is best suited to your part of the country and your conditions. However, our textbooks and our books of reference, especially our Pharmacopœia and our National Formulary, can greatly assist us in this. In these books can be stated more fully the properties of many articles, and how better to avoid deterioration. Suitable containers can be described more fully by these books. Such descriptions and statements would, of necessity, be found under the individual articles rather than in the form of a general statement applying throughout the books.

The writer is not unmindful of the fact that deteriorated articles give results to the physician unlike those obtained by the use of undeteriorated articles. It is well known, too, that many pharmacists have difficulty in preparing certain prescriptions, elixirs, solutions, etc., because deteriorated goods are employed. The goods having dried out, for example, are no longer the goods called for in the prescription, elixir, or solution. The result is frequently a precipitate that cannot be accounted for, or some other manifestation of irregularity.

Deteriorated goods, generally due to the use of improper containers, no longer have the physical properties expected. They do not have the expected alkaloid content, or perhaps the expected ash content, or the expected solubility, or the expected melting point, or what not. They are unreliable, and should be avoided. And the way to avoid the deterioration is to prevent it.

Closely connected with this question of containers is the question of storing goods. It is not desired here to speak at length upon this topic, although much is to be said, and needs to be said. It is sufficient at this time to say that, if the pharmacist really wants to handle good goods of the kind here mentioned, he must, of course, first obtain them in proper containers, and then, secondly, keep them properly.

In conclusion, and in brief, (a) goods deteriorate for lack of proper containers; (b) proper containers for all articles are procurable; (c) to get them with certainty it is at present necessary to ask for them, at times with emphasis.

DISCUSSION.

Mr. Murray said he was in a position to see a great many goods that were put up for the trade, and knew from practical experience that when some of the goods would go out they would certainly spoil eventually, but the present demands of the trade were such that it could not be helped. He was here, therefore, merely to advocate that the retail pharmacists should help themselves a little bit. He had in mind no particular container. No one container would be suitable. Each article needed its own container, and sometimes in different parts of the country different containers were desirable for the same article. Just before

leaving home, an order had passed over his desk containing about a dozen items, and it was such a good example of this topic that he had copied it. This question of improper containers was not confined to the East nor to the West, though he thought the West was a little bit worse off than the East, because of the freight. Mr. Murray read the following list that a large house manufacturing pharmaceutical preparations had ordered:

Mercury Iodide Red	Paper.
Codeine Sulphate	Carton.
Digitalin German	Carton
Sparteine Sulphate	Carton.
Iron Arsenate	Carton.
Quinine Arsenate	Carton.
Mercury Iodide Yellow Powder	Paper.
Ferrous Iodide Powder	Carton.
Arsenic Iodide	Carton.
Aconitine Crystals	Carton.
Strychnine Arsenate	Carton.
Quinine Valerate	Carton.
Phenolphthalein	Paper.

Besides those mentioned, there were four other articles on the order, but they did not specify the container. It was not unusual to receive such orders. He had seen many orders for goods to be imported, which were going to colleges that taught chemistry. They ordered many things in cartons which the pharmacist was unable to keep in glass bottles. He thought the quickest and best relief was for the pharmacist to ask for proper containers and insist upon them, because he knew they were to be found in the trade at this time, though they were somewhat difficult to get at first.

C. A. Mayo of New York said he thought Mr Murray might well have supplemented his paper by a tabular statement of the classes of things which required a certain kind of container. He was aware that it might look like an elementary procedure, but he was sure the paper would have been much more practical and valuable if the author had supplemented it by giving some practical suggestions of the classes of drugs that required certain containers—although it was known, of course, that such drugs as sodium salicylate could not be dispensed in paper cartons. He thought it would be valuable to have the druggists' attention drawn to this important matter.

Mr. Jones called attention to the pharmacopœial requirement regarding containers for certain drugs, and said that the Drug Commissioners of some states required that drugs should be sold in containers as specified in the U. S. P. and N. F.

L. G. Blakeslee of St. Louis said he had only heard the last portion of Mr. Murray's paper, and his remarks supplementing it reminded him of something which had occurred here the evening of his arrival. He had overheard a conversation in the lobby of the hotel, in which the manufacturers were being condemned in round terms for sending out certain chemicals in unsuitable containers. His idea was, that the pharmacist should be the man to specify the container. He was satisfied the manufacturer would prefer to send drugs out in containers that would preserve them, and all the manufacturers furnished lists in which were specified all kinds of containers, bottles, cartons, cans, or whatever might be suitable for the particular drug or chemical, and all the pharmacist had to do was to specify what he wanted. In some localities sulphite of soda and salts of that character might be ordered in paper cartons, where the pharmacist expected to dispose of them quickly. Mr. Murray's paper was evidently based on the idea that pharmacists should understand this requirement. If the retailer desired his chemicals and drugs in a particular container, he should understand and specify the kind of container he wanted.

Mr. Jones said that in his section the pharmacists specified the kind of containers desired, but it was often impossible to obtain them from the jobber. He had known of sulphuric acid being shipped in cork-stoppered bottles, and a number of other things in equally improper containers. The jobber said it was impossible to get from the manufacturers the proper containers. It was up to the manufacturer and the jobber to correct

these conditions. He expressed the belief that the trouble was primarily with the manufacturer of chemicals.

Frank E. Mortenson of Pueblo, Colo., said he thought that while the retail pharmacist could help himself, he ought to begin at the bottom. The U. S. P. specified how a drug should be kept. When he came to buy, he would find that such a firm as Squibbs would put up their chemicals in the proper containers in every case, and if it was a substance that would only keep for a short time, he would find printed plainly on the label the precaution he should take when it arrived.

Cornelius Osseward, of Seattle, expressed his surprise to learn that any druggist would order such a thing as yellow iodide of mercury or red iodide of mercury in paper. He admitted that he might be "green," but he knew the jobbers were often to blame for sending out goods in unsuitable packages. All of his shelf-ware was in amber glass, he said, and he would have nothing in white bottles. He thought this had a good deal to do with deterioration in chemicals, the standing on the shelves from day to day and week to week, in improper containers. He was convinced that from experience chemicals would keep longer in amber bottles.

Chairman Utech related an experience he had had on the Drug Adulteration Committee of the Pennsylvania State Association. In that organization they had had occasion to interview some jobbers with reference to this question, and had learned that since the passage of the Pure Food and Drugs Law the wholesalers were trying to do what they could in the matter. He said he referred to the handling of bulk chemicals, such as magnesium sulphate. It was not an uncommon thing to get such chemicals with small sticks of wood and nails in them. When it came to sending out such salts as sodium bromide, potassium iodide and the like, if it happened to be a damp day, very frequently the paper would become so softened as to impair the quality of the whole package. He did not think the jobbers were entirely at fault in this matter, as it lay largely with the pharmacist himself as to how he received these articles: he could get what he wanted, and get it right, if he insisted upon it.

Section on Commercial Interests

Papers Presented at the Sixtieth Annual Convention

A SYMPOSIUM ON "THE CAUSE OF THE COMMERCIAL TREND IN PHARMACY."

Mr. E. L. Scholtz, of Denver, opened the discussion and began by saying that the question of commercialism in pharmacy was one that was attracting a great deal of attention at this time, and that there was more or less criticism from those who were supposed to run ethical stores. In reading the proceedings of the Los Angeles meeting he had noticed that a member present from one of the Dakotas had read a very interesting paper on the subject of what he did not do. It was particularly interesting from his standpoint, but it should not be forgotten that circumstances and conditions varied, and that each man must look to the development of his own business. Everybody who had traveled about the country must have noticed how the drug business had developed from conditions existing thirty years ago. He well recalled the store in which he had learned the first principles of the business, and not for a moment would they have thought of having cigars, stationery, soda-water and other merchandise of that character. But the demands of the public had had a great deal to do with the development of the drug business in this country. Drugstores, for a long time, had been looked on as places of convenience. The public had gone for years to the corner drugstore for all sorts of information, and when a man visited a city where he was a stranger, he naturally stepped in at a place that looked like it was alive and as though the people knew their own city. Strangers in a city did not go to the department stores for information, and if they did they didn't get it. He related an amusing experience of his own, in going into a department store in Denver, directly opposite his own place of business, where he asked the young lady who waited upon him, and who apparently possessed but slight information of her own department, the question, "Can you tell me where the Scholtz Drug Company is?" to which he received the reply, "No, I don't know." She was interested enough, however, to turn and ask the man behind the counter if he knew, and this brought out the response, "It is somewhere around here, but I don't just know where it is." Drugstores, on the contrary, were intelligence headquarters, and that was where people went when they wanted to know things. It was wonderful, really, to think of the great variety of knowledge that the real student in a drugstore gathered in the course of a lifetime. He acquired a knowledge of science, history, botany, his own business, physics, chemistry, and frequently of the languages, and if he was a man of capacity, he possessed a fund of information that placed him far above the average business man.

The modern drugstore was an evolution, coming not from the desire on the

part of the owner to drift into side lines of merchandise, but as the result of repeated suggestions induced by the conditions of modern life. For instance, a community of cultured people would want magazines, and where the bookstore was located two miles downtown, various members of the family, young and old, would repeatedly come in to the corner and inquire, "Why don't you have such and such in the way of magazines." And it would be the same with stationery and other articles. The druggist would naturally say to himself, "Here is an opportunity of furnishing this family what they want. They are evidently too healthy to need drugs; therefore, why not sell them what they ask for?" It was the needs of the community that decided the character of the business done. The introduction of confectionery and the like had thus come into the modern, "progressive" drugstore. This evolution had continued until the regular drug feature of the business, with this class of stores, was rapidly approaching the *nil* point. If the druggist happened to be located in a Christian Science community, he would starve to death if he depended on his sale of drugs.

American travelers abroad were often inconvenienced in going into the chemists' shops of England, or the apothecaries' shops of Germany to buy familiar articles dispensed in American drugstores, only to have them refer him to the specialty stores that handled these particular goods. He illustrated by the experience of a friend of his, who went into one of the real pharmacies of Germany to buy a hot-water bottle, and they sent him to the rubber store. The rubber store was closed, and the patient had to suffer for the want of a hot-water bottle. In this country, rubber goods has been made a regular department in the drug life of the country, and the modern progressive druggist could scarcely find fault with the fact that he was required to carry such goods, as they were quite profitable.

Mr. Scholtz, recurring to his early days in the drug business, went on to say that he first worked for a German, who conducted a real apothecary-shop. In the afternoons, he had every opportunity of taking a nap or putting up Seidlitz powders. The prescription business was very limited, and there was plenty of leisure time.

As touching the prescription phase of the business, Mr. Scholtz said that it was a singular fact that the progressive druggists in this country, the ones that handled the general lines of merchandise, were the ones that put up the greatest number of prescriptions. He thought this was absolutely true, all the way from New York to San Francisco. He had investigated the subject, and with but one exception had found it to be true. This exception he had found on the Pacific Coast, in a chain of stores there. The manager had explained to him that for a long time their policy had been to avoid the prescription business—to ignore the physicians, for the simple reason that they could make more money in those lines to which no responsibility was attached, whereas in the putting-up of prescriptions the compensation derived was not sufficient to offset the danger always accompanying the compounding of prescriptions. Finally, a physician had suggested the establishment of a department for the filling of prescriptions, to be put in charge of a perfectly competent man. They had adopted this suggestion, and had been gratified to find that this department bade fair to make as

much money as any other, and this policy of catering to the needs of the physician would be continued.

Mr. Scholtz went on to state that when, within the past two years, he had suggested to one of the Denver physicians that he had in mind to establish a strictly physicians' drugstore, carrying nothing but what the physician needed in his profession, he was greeted with the admonition: "Don't do it; it will never pay here." This physician gave as his reason for his opinion that it would be impossible to get all the prescriptions that all the physicians would write, and it was doubtful if he could even get the larger part; that the contrary condition had existed for years, and the physicians naturally leaned to the druggists in the localities where they lived or had their offices, and they would certainly get some of the business. Mr. Scholtz said he had even been discouraged in this project by the owner of a building where he designed establishing such a store, on the ground that it would not pay, and that the physicians themselves wanted a drugstore of the modern type.

Mr. Scholtz concluded by saying that he personally felt the cigar business ought to be thrown out of the drugstore; that although he used the "weed" himself, he considered it about as senseless a habit as a man could have, and he wondered why sensible druggists catered to the use of tobacco.

Mr. Kendall said he had not yet been able to get all the "soda-fountain" out of his system, despite his repeated efforts, and asked Mr. Scholtz to discuss that proposition.

Mr. Scholtz replied that he knew he was treading on toes to say it, but the soda-water business had entered into the druggist's life in a peculiar way, and must be regarded as a permanent part of the business. Many years ago, when carbonated waters first became popular, it was discovered that bicarbonate of soda and sulphuric acid were required, both of which articles were obtained in the drugstore—that by the decomposition of the bicarbonate of soda, the carbonic acid gas was liberated and put into the water under pressure. People then said, "Why, that belongs to the drugstore!" Naturally, the druggist believed it, and took it up and has been at it ever since. From that first suggestion to the chemist of making carbonated waters himself, there had been evolved the modern drugstore soda-fountain.

Mr. Scholtz said that the man who had a good soda-fountain and served the proper drinks, became well known in his neighborhood, and was the man that would get the largest volume of business. The reason was that children and young people were the ones that favored the use of soda-water, and many of the older people enjoyed these drinks, as when well served they were delicious and never harmful. He doubted very much if anyone had ever drunk too much sodawater. There was no question but what a soda-fountain drew trade—though the soda business in relation to the whole volume of business was oftentimes very small. In his own business, it had never exceeded one-sixth of the entire volume of business. The cigar department, with him, was only about one-fortieth of his business, and it could be very well left off.

Another good thing about the sodawater business was, that the oftener people came to the store the more impressed they were with the character of the estab-

lishment, and they came to have confidence in the other departments, and that led to the reasoning that the drugstore they patronized in that way could put up medicine as well as the man who had no soda-fountain and who did not handle a general line of merchandise.

In conclusion, Mr. Scholtz said there was no particular advantage in the strictly prescription drugstore, from his point of view, in city life. Of course, if a man wanted to have leisure to read the newspaper all day,—as his first preceptor used to do,— or to read the drug journals, that was another point of view. He admitted that the word "drugstore" was not applicable to such stores, and he could not say what name would finally be evolved to describe them. When the term "drugstore" was used in ordinary conversation, people expected to find a place where they could get anything they wanted. It was simply a question of evolution, after all, and it would be a short-sighted business man who did not take advantage of the public demand, with the constant revenue to be derived from its recognition, and the increase in the pleasures of life resulting from an increase of income. Cameras, films and photographic supplies were striking illustrations of such demands on the part of the public. Ten years ago, the "camera craze" was hardly dreamed of, but the public began traveling, and every tourist had his camera, and went to the drugstore for his supplies. "You must supply the people with what they want," said Mr. Scholtz, "or you are not a good merchant."

Mr. Dick asked Mr. Scholtz if he thought it was good policy to meet cut-rate prices in the retailing of goods, and Mr. Scholtz replied that there was but one answer to such a question: That the wise man never permitted his competitor to beat him out.

Mr. L. G. Blakeslee, of St. Louis, in taking up the discussion, stated that when he suggested the "trend of commercial pharmacy," as a subject for discussion, he expressed the hope that the discussion would take the direction of the ascertainment of the real fundamental causes involved. He was sure that no one could better enlighten the members on the existing situation than Mr. Scholtz, but it had occurred to him that perhaps away back of all this there was a real cause, which was apt to be overlooked, and it was his idea to draw out that thought and have it discussed.

No one, said Mr. Blakeslee, had at the beginning, nor had today, higher ideals as to pharmacy than himself. He had purchased Professor Stevens' store in Detroit when the latter left to take a chair at the University of Michigan, and in this store there were no patent-medicines exhibited at all, but there was a large and lucrative prescription business, which it was his idea to perpetuate, and which he did to the best of his ability. After remaining in business for some time, he saw the coming cloud of commercialism, which had now so fully enveloped pharmacy, and disposed of this store, because he desired, if he was to become a commercial man, to follow another line. It was with the purpose of finding out just what this evolution was, and what it meant, that had led him to make a close study of the subject. It seemed to him that its causes lay very largely with the manufacturing pharmacist—though he expressed the hope that no one would draw the conclusion that he was saying a word derogatory to that interest,

as nothing was farther from his thoughts. The aggressive and extensive manufacturers had progressed so far in the manufacture of remedies which the pharmacist had formerly compounded himself that it left very little for the real scientific dispenser to accomplish. He had gone into Mr. Scholtz's drugstore and asked the clerk to go back through fifty prescriptions he had compounded today, and had found that approximately half of them were already prepared—such as elixirs, pills and the so-called pharmaceutical specialties. In smaller places, like towns of ten or fifteen thousand and downward, the percentage of prescriptions actually compounded was almost *nil*, as the manufacturer had made these preparations so scientifically, so neatly; and when he gave the doctor his therapeutics, he bought his remedies. Under these circumstances, what was left for the pharmacist to do? He recalled that, in Michigan, three large stores had given up the retail business, and were now manufacturing pharmacists; he thought possibly Mr. Scholtz some day might have a manufactory of his own here in Denver—as he realized that he was of the kind to get in the "bandwagon" and follow the procession or lead it. The manufacturer had made the commercial pharmacist, by making it easier for the physician and the public, as well as for the pharmacist himself.

Mr. Blakeslee, continuing, related an experience of his boyhood days in the country, and of his interest in the contents of a bottle that his father kept in the cupboard, a bottle marked "Hartshorn." When he got to the University, he found it was called ammonia hydrate, or, more scientifically, NH_4OH. He learned there that this was the name he would use for that article when he went into business. He went into an old apothecary-shop in Ann Arbor and asked the clerk to give him two ounces of ammonia hydrate, and he well remembered the expression upon the face of an old gentleman back behind the counter, working on his books, as he looked over his spectacles and remarked, "That is one of those darned fools from the University. He wants ammonia water."

Mr. Blakeslee said that, at one time, he was engaged in a very high-class prescription store, which did practically nothing but prescription work, and where they used from three to five pint bottles of syrup of hypophosphites a day. It was a simple compound, and he asked the physicians, if they would object to his dispensing a preparation he could make for them, instead of the proprietary articles they were accustomed to dispense, and they agreed to it. He made a satisfactory preparation, but when the representative of the manufacturing house came along and found that his order for syrup of hypophosphites was curtailed, he had taken a "fall" out of him that he would never forget. He afterwards found that this representative had such influence with the proprietor of the store that he made him discontinue the syrups he had prepared and go back to the manufactured preparation. This was the starting-point, said Mr. Blakeslee; this was where his eyes were opened. There lay the difficulty, he said.

Prof. Homer C. Washburn, Boulder, Colo., said he looked upon the trend of commercialism in pharmacy as an evolution of trade conditions parallel and analogous to the evolution of manufacturing clothing as compared with the early days. In the Colonial days every family had its spinning-wheel and its carpet-

weaver, and they made these things. But all this was changed, and now all business was specialized. Only a few years ago an engineer leaving an engineering-college engaged in all kinds of engineering projects. Today, he was a specialist in some branch of engineering. If a man was a good railroad engineer, or a good bridge engineer, or architectural engineer or civil engineer or electrical engineer, or chemical engineer, or naval constructor, he would succeed. It was the same with pharmacy. Likewise, the physician of thirty years ago knew very little about diseases, as also of materia medica. He knew nothing of bacteria. Today, on the other hand, one man devoted his whole time to pathology; one treated this form of disease, and the other that, and far better results were reached than in the days of the general practitioner.

Suppose, said Mr. Washburn, continuing, the druggist attempted to make a fluid extract or tincture of digitalis. Digitalis was a drug that did not respond to chemical analysis, and the strength of various specimens would vary very widely, a dozen different batches of drugs having as many different strengths. Not one retail pharmacist in 10,000 had the apparatus to assay physiologically the fluid extracts or tincture of digitalis, nor could the average pharmacist do so, even if he had the apparatus.

The manufacturing houses, on the other hand, would make a barrel of fluid extract of digitalis, and after it was thoroughly mixed they would put it in charge of an expert, a specialist in that line, and he would try it on one hundred or two hundred frogs, dividing the frogs into lots of five or ten, giving them successive doses. In this way would be determined the strength of that digitalis in heart-tonic units, and if the assay showed a greater number of heart-tonic units than called for he would cut it down, and if it contained less he would concentrate it until the right amount was reached. This manufacturer sold the jobber, and the jobber sold the retailer, and each cc. of the extract had exactly the same physiological power as any other cc. The pharmacist, on the other hand, if he were capable and had the necessary apparatus, would make perhaps a pint of the fluid extract of tincture of digitalis, and it would take as long to assay that amount of the tincture as it would the manufacturer to assay his barrel of tincture. Here the question of economy played an important part.

Mr. Washburn concluded by saying that he believed the pharmacist should be *able* to make a good many things, and some he *should* make, but many things the manufacturer could make so much cheaper than the retailer that he could not afford to undertake them. He thought one mistake that schools of pharmacy made was to give the student the idea that he was to be absolutely ethical in the highest sense of the term; that he was going to be an apothecary, and was not to stoop to trade conditions that maintained in other lines of commercial pursuits. Such teaching was an injustice to the student. He should be made acquainted with actual conditions, so that he might know exactly what he would have to meet, and in this way he would be far better off.

F. W. Nitardy, of Denver, said that he had presented a paper before the Section on Practical Pharmacy and Dispensing, in which he had quoted a list of 100 of the most commonly-used pharmaceutical preparations of the U. S. P. and N. F., which he was sorry to say all druggists did not make. He knew

exactly what it cost to make these, including the cost of material, allowance for waste and full allowance for time required, and also allowance for what might be called "overhead charges," or the cost of doing the business. He had compared the prices of these 100 or more pharmaceutical preparations, ranging from elixirs, syrups, spirits and solutions, ointments and tinctures and aromatic spirits, —all through the list of commonly-used preparations,—with the very best prices to be obtained from the leading pharmaceutical manufacturing houses, taking the jobber's discount off their list, and found a very wide margin. The difference was so great that if 50 percent, all the way through, were added to the cost of these goods as given by him, the cost would still be about on a level with the manufacturer's prices. The reason for this was that the manufacturers had heavier expenses than the retail pharmacist had when he made these articles himself.

Replying to Mr. Washburn's remarks upon the subject of tincture of digitalis, Mr. Nitardy said there were half a dozen preparations in the Pharmacopoeia that would require that sort of assay, but this was not necessary if he bought the proper drugs. He could find physiologically assayed digitalis leaves, and he could make a tincture from them, and that tincture would be just as good as he could buy, and at half the price.

He did not think Mr. Washburn's drawing of an analogy between the clothing business and the drug business fitted exactly. No such crude ways were employed by the druggist in making his own preparations as some of the forms employed by the manufacturer. Mr. Nitardy said there was another advantage to the druggist in making his own goods, in that he could show the physicians and the public that he was a real pharmacist, and knew something about what he was doing, and not an ordinary merchant handing out wares over his counter. In the drug business, it was absolutely necessary to have the confidence of both the physicians and the public, and when the druggist was able to turn out finished pharmaceutical products, he would gain that confidence.

Mr. Washburn, replying to Mr. Nitardy, suggested that the gentleman had spoken entirely from his experience with the drug company with which he had been connected since he had left college—a company having a large manufacturing department, and making several hundred preparations, as he understood. It was not in the class of the larger pharmaceutical manufacturers, of course, but likewise not in the class of the druggist having a corner drugstore in a small village. He asked Mr. Nitardy if he considered that the druggist doing business in the small towns of the country, of some two or three thousand inhabitants, who outnumbered a thousand to one such institutions as he was connected with, could make these preparations as cheaply as they could buy from the manufacturer. This was the real condition that had to be met.

Cornelius Osseward, of Seattle, said that this was a subject after his own heart, and that what applied to the large store applied to every store in the United States. One great advantage in the preparation of his own articles by the pharmacist was in the fact that he could say to the physician and the public that he was dispensing absolutely fresh drugs, which could not be truthfully said where he bought from the jobber. His claim was now, and had always been,

that the druggist knew nothing as to whether the preparations he bought and had on his shelves were active or not. He was decidedly of the opinion that he should make his own simple preparations. He was willing to admit that the manufacturer had his proper place, and that he should make a certain line of goods, for the very reason that he could do so cheaper than the small dealer. These were comparatively few, however, and there were a great many things the manufacturer made today where he was infringing on the rightful occupation of the retail pharmacist, and, as for himself, he was opposed to the manufacturer's "getting more out of him" than he could help.

Charles Clayton, of Denver, agreed with Mr. Osseward in the statement that what applied to the largest retail drugstore in respect to manufacturing its own preparations applied to the small store as well. While it was true that the druggist could not make one pound of compound syrup of hypophosphites at the same cost that he could buy a gallon or more from the jobber, he could make it cheaper than he could buy a single pound from the jobber. As was commonly known, the manufacturers usually had a very much lower price, proportionately, on bulk quantities, and it was a constant temptation to buy the larger quantity to get the better price. This was bad policy, however, as it was frequently a long while before the goods could be disposed of. Mr. Clayton said he thought that the average retail druggist could afford to do many things for himself, as, for instance, the filling of quinine capsules—although in his own experience he had found that he only saved about 15 cents a thousand on them, and he thought his time was worth more than that, considering how long it took. On the other hand, he could buy Seidlitz powders of U. S. P. strength and composition for less than he could afford to put them up.

As to the commercial trend of pharmacy, Mr. Clayton said he did not think it was so much a result of supply and demand, as Mr. Scholtz had asserted, as it was the absolute necessity of adding these things to the druggist's line "to keep his head above water." He believed that a large proportion of those who went into the retail drug business did so with the idea that they were to conduct ethical pharmacies; but when they found that the landlord demanded his rent money, and that they had to have something to live on, which demands the legitimate drug business did not supply, they had to add other lines.

A. V. Pease, of Fairbury, Neb., thought that the discussion illustrated forcibly that many times in propounding and elaborating theories men lost sight of their exact application. The druggist should not be a one-idea man, but a man of many ideas, many faculties and many talents. He should also be a manufacturer as well as professional man. But, at last, he was a merchant. He had long ago made up his mind to make everything he could, even if it cost him as much as to buy from the manufacturer, for the benefit of the practice and the maintaining of his skill. He had likewise given close attention to accurate and careful buying, and it had appealed to him from the first that cooperative buying with his neighbors was the sensible thing to do. This was the trend of the times, and he suggested that the members would find it profitable to take up this subject for discussion in their several home towns and put it into active practice. "Experi-

ence meetings" sometimes brought out the best there was in men, and an interchange of ideas, with friendly criticism, meant progress.

Continuing, Mr. Pease went on to tell how the idea of cooperative buying had so impressed him with its value that he was led to investigate the matter and gather such data as he could, and finally got some drug friends to go in with him and form a straight-out wholesale drug house, which had earned dividends from the very start—dividends not only on his stock, but on his purchases.

The history of the Rigsdale stores in England, which did a business of hundreds of millions each year, had given him his inspiration. He was also a member of a similar club in his State (Nebraska), and had found it a decided advantage; its members got together occasionally and talked over conditions. He had just today received by mail proof of a half-page ad in one of the great dailies of his State, and every man of his club in Nebraska had his name on that page. This was a chain of stores, but the stores were owned individually by the members. Every member was a part of this chain, and tied to the company by actual investment, but controlled their own stores. He believed the business would constantly grow, as it had been doing, and that cooperative buying and cooperative manufacturing was the inevitable trend.

Mr. Nitardy said that, if not out of order, he would like to go back to the first subject under discussion, to reply to one of Mr. Washburn's statements, to the effect that the laboratory with which he was connected was out of the ordinary class of retail drug stores. This might be true as to a few preparations that he made in large quantities, but his list comprised something like 650 different pharmaceutical preparations, and the great majority of them were not made in quantities of over a pint at a time. He was satisfied that if Mr. Washburn would come to his establishment and compare his prices with those of the pharmaceutical manufacturing houses he would be converted to the idea that it would pay the druggist to make these things for himself.

Gus C. Kendall, of Meridian, Miss., said that he had not intended to participate in this discussion, as he had been so much in evidence yesterday, but could not refrain from making the suggestion that if the members were to discuss some of these propositions "from now until the next session of the A. Ph. A.," they would be no nearer their solution. He commended the remarks of Mr. Scholtz as being one of the most intelligent discussions of the subject he had ever listened to on the commercial side of the drug business; but he nevertheless maintained, and defied successful contradiction, that the pharmacist of today was the only professional man that was not living up to the standard of his profession.

Specialization was the order of the day in every line but pharmacy. This was noticably true in medicine and surgery, not to mention dentistry. In these days of progress and advancement, a man didn't even have to go to an old-time practitioner when his horse or his cow got sick—the veterinarian attended to that.

All this was a plea for the specialist in pharmacy—although Mr. Kendall admitted that conditions would have to govern this matter to a large extent.

He closed with a tribute to the progressive little city in the South, where he lived, where it was supposed generally in the country that "everybody was suffering from the hook-worm, when, as a matter of fact, since the discovery of 'Vinol' they were getting rid of that."

Wm. D. Dick, of Lawrence, Kans., added his testimony to the value to the druggist of manufacturing a number of elixirs and other preparations himself, and said his experience had proven that it could be done at a profit by anyone who would undertake it. He had no manufacturing chemist, but that was not really required, with the knowledge that was furnished by the Pharmacopoeia and National Formulary. He thought any good, ordinary druggist could manufacture these things and be thoroughly safe in saying they were up to standard. If the druggist was very careful, it would mean a profit to him, and he would have the satisfaction of knowing that his preparations were absolutely such as he would like to recommend. It would be a preparation of quality—which could not be said of every preparation bought of the manufacturing pharmacist. There was no "cutting" in his town, and he thought it always unwise to cut prices, and that the druggist would sooner or later "cut his own throat" by engaging in that practice. The druggists in his town had educated the people to understand that when they wanted medicinal products they must go to the drugstore for them. A department store had started on a line where the druggists found it was injuring them, but they had succeeded in getting them to withdraw that and a number of other preparations they were selling even below cost, thus saving a profit to themselves. He realized that conditions in the larger towns and cities—as Denver, for instance—were different. He and his fellow-druggists were all on good terms, and whenever a "proposition" came along two or three of them would get together and buy and get the discount, thereby purchasing as cheaply as any jobber could do.

H. H. Whittlesey, Pocatello, Idaho, continuing this discussion, said it seemed to him that the drug man or pharmacist, be he a man of commercial instinct or high ideals, was entitled to the profits which came with the evolution in pharmacy, and which had made it a commercial business rather than an ethical one. He lived in a town of 30,000 inhabitants, and they had no cut prices. "It is a land of eternal sunshine and fair prices," said Mr. Whittlesey. He had watched the evolution of the drug business, had noted the many different products which had been exploited, and it seemed to him that it was proper for the druggist to embrace any opportunity to make a profit out of any side line that did not conflict too strongly with his ideals. He was also of the opinion that he could make many of his own preparations, as Mr. Nitardy had suggested. He thought the pharmacist who had spent time and means to prepare himself for the skilfull practice of his profession was entitled to all the profit that he could legitimately realize, and he believed in extending the business to embrace those things that would pay a good profit. He was opposed, however, to making an entire sacrifice of ideals. He had been taught pharmacy by Remington and materia medica by Maisch away back in 1874, and naturally he had started in with high ideals. He spoke of the vast difference in conditions between the time when he started

out in Chicago, where it required three prescription men to make pills and fill the prescriptions that came in, and those of the present, as illustrated in his own experience, when he had to do this work himself because of the lack of experience the average drug clerk had in the preparation of pills. He advocated the buying of supplies that could be secured to better advantage than if the druggist prepared them himself. He concluded by the statement that under the modern conditions of life, where everybody wanted an automobile, and desired to have a good house to live in, with electricity to light it and gas to cook with, and to dress his family well,—all of which he considered legitimate expenditures for the pharmacist to make,—it was all the more necessary for the druggist to embrace every opportunity to make money legitimately in his business. But he might do this and not sacrifice his ideals.

Mr. Scholtz said he thought the discussion had drifted far from the real proposition under consideration, viz: commercialism in the drug business. Referring to the statement by Mr. Kendall that in his city of 25,000 inhabitants they only had fourteen drugstores, he said that if the laws of the United States were similar to those in Germany, which practically established an apothecary-shop on the ratio of 1 to every 2,000 people, "we would all be ethical druggists." But, the situation was different in this country, and conditions varied with different localities. Referring to his own experience, Mr. Scholtz said that he had not even observed that there was not a place in Denver to get a decent glass of sodawater until his attention was called to it by someone else, and whether good or bad from an ethical standpoint, he went right at it, with the result that his soda business had grown from nothing at that time to $100,000 a year at the present, as the total of the several stores the company conducted. At the time he embarked in business for himself the store with which he was connected was doing a business of $16,000 a year, whereas his own business was $22,000 the first year—because he had put in soda-water. The second year it was $28,000, and it had continued to grow until it had now reached an amount which it took "six figures" to express. The reason of such remarkable growth was because they had "started something different, and supplied a demand."

Mr. Scholtz went on to draw a vivid picture of the contrast between the old-fashioned drugstore, "a place that made you sick when you went in it and sicker when you came out," and the "modern emporium of fashion, the progressive drugstore of today." Right or wrong, he said, this was what they were, and the druggist of today must meet the demands of the people of his community. Mr. Scholtz set his face firmly against the serving of luncheons in drugstores, however, and said he was going out of the business when it came to that. Recurring to his early days in the drug business, Mr. Scholtz said that the trouble with the man he had started out with was, that he was an old Philadelphia-College man, a German, indifferent to conditions as they existed, bent on following out his ideals, without regard to the public demand. He attributed the marked progress he himself had made to the fact that he took an exactly contrary view of the matter, and the fact that his energy was of a "different sort" from that of his first employer. He said he wished that all were pharmacists in the strictest

sense; that he himself had made all of the elixirs and fluid extracts of different kinds that Mr. Nitardy now made. He had prescription men now, who did nothing else but fill prescriptions. But the modern drugstore, in his opinion, could not ignore the public demand for other things in the drugstore than medicine.

Mr. Osseward said he wished to call attention to the mistaken idea that because a druggist ran a commercial business he could not be an ethical pharmacist. He had visited one of the stores of Mr. Scholtz a number of times, and he was satisfied that he ran a prescription pharmacy as good as he himself was running in Seattle, and he did nothing else. He disliked commercialism, and that was why he ran a prescription drugstore only; that Mr. Scholtz did not lose sight of the ethical side of pharmacy, although he ran a commercial store. He thought the idea that the two things were incompatible was ridiculous.

Mr. Kendall disavowed any purpose of intimating that a man who ran a commercial drugstore could not be an ethical pharmacist. The real point of discussion was, whether conditions were such that a man could run a strictly ethical drugstore, and yet go so largely into the commercial end of the business.

This discussion reminded Mr. Clayton of the story of the man who met a stranger on the street and asking him what his business was, elicited the reply, "My business is saving souls, but I dig ditches for a living." He thought this aptly applied to a lot of those whose business was pharmacy, but who had to sell other things for a living.

W. Bruce Philip, of Fruitvale, Calif., called attention to the fact that the example of the larger stores in successfully handling a number of side lines frequently had an injurious effect upon the smaller druggist, in leading him to follow suit, with the result that he did not carry sufficient stock of any one thing to make a success. His advice was to start out with a drugstore, pure and simple, and not put in a side line until it could be properly handled. Then, if it should develop that that line was a mistake, it should be eliminated. He had tried putting in a first-class assortment of candy, and had advertised it extensively; but when he found that the demand was not sufficient to justify it, he had cut it out. He thought it was a great mistake for the small stores to jump from one side line to another.

THE MEN WHO HAVE ARRIVED.

Every man that ever amounted to anything in this world had the habit of doing things alone, unaided and in new ways. He followed untrodden paths, struck off alone and boldly, without calling a meeting of all his friends to advise him. He learned to trust himself, to recognize his own thoughts as good thoughts, and to grasp an opportunity ere it was too late.—*Western Druggist.*

Section on Historical Pharmacy

Papers Presented at the Sixtieth Annual Convention

REPORT OF THE HISTORIAN.

EDWARD KREMERS, PH. G., PH. D., MADISON, WIS.

It was at its jubilee meeting in Philadelphia in 1902 that the American Pharmaceutical Association found sufficient leisure in its onward march to look backward. Not only were the exhibits of an historical character, but the occasion had arrived for the association to express a willingness to devote a small part of the time of each annual meeting to considerations of an historical character.

In order to put to a test the desire for reflection of the past and for permanent historical activity at the Philadelphia celebration, a committee was appointed to prepare a suitable program for the next year. The Council provided one session for the program of the Historical Committee at the Mackinac meeting in 1903. This meeting proved of sufficient interest to warrant the continuation of this arrangement for another year. The meeting of the Historical Committee at Kansas City in 1904 having proven the stability of the interest of those historically inclined, the Association granted permission to establish a regular section to be known as the Historical Section. Although no money is at stake in the matters presented to this section, although not even the glory of new discoveries attaches to the facts unearthed, this section has not only held its own, but the interest taken in its work has increased rather than diminished as one year's program succeeded another.

It is now ten years that your reporter has been closely affiliated with this new line of work on the part of the Association; for two years as Chairman of the Committee, and since the organization of the Section as Historian. When urged at Kansas City to accept the Chairmanship of the Section, your reporter positively refused to do so for the good of the Section and for the future of the work which it represented. The success of the Section has demonstrated that in this particular instance at least your reporter was right and that his good and well meaning friends were wrong.

For the good of the Section, your Historian now desires to state that under no circumstances will he consider a re-election. Not that he has lost interest in the work, nor that at any time he has had even a suspicion of misunderstanding with his associates. For the good of the cause, however, he desires to express certain views to which he could not give expression if re-elected.

All members of the A. Ph. A. who have the welfare of this Association and of American pharmacy truly at heart have at all times revealed an unselfish willingness to put their shoulder to the wheel and also to put their hands into

their pockets so far as their means permitted. Hence we accept without hesitation the gift of time, energy and money bestowed by temporary officers of the Association at large, also of the sections. However, when it comes to those officers which are regarded as more or less permanent, we feel that we have no right to accept year in year out such gifts which, in the long run, could not be regarded as gifts but as sacrifices.

Like the officers of General Secretary, Treasurer, Reporter on the Progress of Pharmacy, and Editor of the Journal, that of Historian should be an office filled by the Council. Ex-officio the Historian should be an associate of the temporary officers of the Historical Section. Two years ago the Historian was made ex officio a member of the Council. The time seems opportune for taking the second step in the right direction and to make him an officer of the Council.

As a permanent officer of the Association, the Historian should attend each and every annual meeting unless prevented by sickness or other unforseen circumstances over which he has no control. It is not right, however, to expect him to attend these meetings at his own expense year in year out. The Association may not be in a position to offer the Historian an honorarium, much less a salary, but it should not accept for an indefinite period his services from one end of the fiscal year to the other and then not even offer to pay his traveling and hotel expenses while in attendance upon the meeting as one of the permanent officers.

Before making these remarks, I made the statement that I desired to make them because I had the future of the historical work, at heart. Permit me not only to repeat these words, but to add that what little I have been able to do and give during the past ten years has been given most cheerfully. Indeed I should like to continue in the same course, did I not feel that the office of the Historian should not be made light of, if it is to command the respect of this Association.

The American Pharmaceutical Association was the first to establish an Historical Section. In the establishment of this Section and its progress during the first decade of its existence I have naturally taken some pride. Much as I may regret to sever my official connection with the same, I feel that the time has come when its future and that of the Historian of this Association should be made secure. That I shall always continue to take a personal interest in this section, it is needless to state.

Anticipating my retirement from office, and looking forward to the establishment of permanent quarters for the collection in connection with the National Museum at Washington, the Historian has for the past two years made a special endeavor to put into shape not only for shipment but for use many of the numerous documents received for the Archives of the Association. With but relatively little additional work, these can now be shipped to Washington or to such other permanent or temporary abiding place as the Association may direct.

With the kindest greetings to my numerous pharmaceutical friends who have come together at Denver, I sincerely regret that I cannot be with you at the present time.

SOME OF THE EARLY DRUG STORES IN VERMONT.

COLLINS BLAKELY.

BARRE.

Dr. A. E. Bigelow, a practicing physician of South Barre (born in Brookfield, Vt.), moved into Barre village and opened the first drug store there in 1850, located north of Reynolds' hardware store in the Mower building. He continued in business for ten years.

In 1860 Stillman Wood, then postmaster of Barre, opened a drug store and conducted the same for twelve years or more, or until 1872, when William A. Perry, having been appointed postmaster, bought out the Wood's stock, as he wanted the store room for his postoffice. Mr. Perry turned over the stock of drugs, etc., to W. A. Gladding, who conducted the drug business and assisted in the postoffice for nine years. Mr. Gladding then moved his stock to the present site of the Kendrick drug store and continued in business there until about 1905, when he sold to Mr. Kendrick.

Dr. A. E. Field came to Barre in 1871 and with his practice engaged in the drug business for seven years. Charles Smith bought his stock in 1878 and ran the store for fifteen or more years. Charles R. Denney succeeded Smith, and in 1898 A. E. Drown bought the store and is conducting it at the present time. About 1890 Mr. Kendrick, of Lebanon, N. H., the father of C. H. Kendrick, opened a well appointed drug store opposite the depot square. On the death of Mr. Kendrick, senior, several years thereafter, his son, C. H. Kendrick, moved the stock to the Miles block in 1898. In 1901 he sold out to Rickert & Wells; Mr. Wells is now the sole proprietor of a very successful business.

In 1902 Mr. D. F. Davis started a new store in the Morse block, just north of the depot square, and is conducting a good business there at the present time.

Barre may be called the boom town of Vermont, having since 1870 grown from less than 3000 to 10,734 in 1910, and maintaining five drug stores.

BARTON.

The Pierce store was established in 1852 by William Joslyn and Dr. J. F. Skinner. After a few years, Dr. Skinner sold out to Mr. Joslyn, who took his two sons, Ginne and Myron, into partnership with him, under the name of William Joslyn & Sons. They bought out a store in Colebrook, N. H., and conducted the two stores together. The father spent most of his time on the road selling drugs. E. F. Dutton, grandfather of F. D. Pierce, worked for the firm and bought them out in 1869. He continued the business until 1885 when the building was burned. H. C. Pierce, the father of F. D. Pierce, had served as clerk for several years, and after the fire bought what was left and moved across the street into a couple of rooms until the present building was completed and continued the business until his death in February, 1906. After his death, F. D. Pierce conducted the business, which he still continues. Myron Joslyn went to Boston and into the wholesale business with one of the con-

cerns that combined with the Eastern Drug Company, with which firm he is still connected.

BENNINGTON.

Mr. Serreno P. Peck engaged in the drug business in this village in 1840. I have been unable to learn whether he started the store at that time or bought out some one who preceded him. He died in 1859. Soon after, John Taylor Shurtleff came from Woodstock, and with the help of Mr. Chapman, an old druggist in his home town, bought the store, Mr. Chapman being his partner for one year. Mr. Shurtleff then continued the buisness till his death in April, 1904, a period of almost unprecedented length. E. B. Hyde succeeded to the business and ran the store until he sold out to Mr. Thompson in 1909, who in the spring of 1911 sold to W. D. Cole, who is there now. Data as to the four other stores in Bennington I have not obtained.

BRANDON.

The first drug store in Brandon was established by Dr. Chauncy L. Case from Huntington, Vt., about 1850. H. D. Crooks, one of the original members of the old State Association, clerked for him from 1856 to 1859 and again in 1865-1866, before going to Montpelier October 1st of the latter year. Soon after Dr. Case started his store, he bought out all the drugs carried in the stores in that vicinity, except what was kept by Mr. Jackson, the postmaster. Dr. Case had several partners during his business career. The first was Charles Lyon from Schenectady; then Judson Chiney, who went to Colorado and died there. Incidentally, it may be stated that the Doctor at one time opened a drug store in Middlebury with a Mr. Ryder as partner. The late Dr. C. D. Boynton, who was killed a few years ago in the elevator shaft of Wells, Richardson Company of Burlington, was probably the third partner of Dr. Case, who later bought him out and took in Frank Manchester as a partner, the firm name being Manchester & Boynton. After Dr. Boynton went to Burlington, Manchester entered a partnership with Fred C. Spooner, under the name of Manchester & Spooner. Manchester died in 1893 and Spooner assumed full proprietorship of the business and is still running the store. In 1862 Robert Forbes opened a drug store in competition with Dr. Case and had for his second clerk the late A. W. Higgins, the long time popular druggist of Rutland.

George A. Crossman bought out Robert Forbes and ran a first class drug store for several years, and was succeeded by the late Z. B. Hopkins, formerly an active and prominent member of the State Association. After the death of Mr. Hopkins, the store was sold to Barker & Evans; the present proprietor is Fred R. Barker.

In early life Dr. Case taught school, and later practiced medicine in Huntington. After coming to Brandon, he discontinued his practice and gave his whole time to the drug business. His wife, who survived him several years, was a great help to him. She and her mother used to do much work for the store—made syrups, washed all the bottles in soap suds, then rinsed them in cold water. They made roll salve at the house and spread plasters, boxed pills, etc. Dr. Case greatly enjoyed a joke and was very musical. He played the

organ at the Baptist church and used to have young Crooks, his clerk, go and pump the organ for him. He was a great admirer of Shakespeare and was accustomed to invite people to his house to take parts in reading the great author's works.

His motto in the store was painted on the walls for the boys' benefit: "A place for everything, and everything in its place." Each boy was assigned his particular tasks, and was obliged to do them. Dr. Case would have the boys make putty, mix different colored paints and strain them, and so have them ready for sale by the quart. He would send young Crooks out into the woods to get elm bark, and black cherry bark for bitters that he made. He made everything in the store that it was possible to make, saved every bit of string and paper, bought old newspapers to wrap goods in. He was a strict and rigid disciplinarian. He would not allow his boys to sit down a moment during the day and would remark, "We can not work when sitting down." I think he might well have added that we could not present a good appearance or render the best service when smoking during business hours. But smoking was not then so much of a habit with drug clerks as at present. His store must be open as soon as six-thirty in the morning, but closed early at night and did not keep open. Sundays. He kept a list of every article in stock and went to market often. He did not believe in holidays of any kind—thought them a loss of time. He appreciated the services of his boys and advanced their pay when he thought they deserved it. He was very careful to serve all customers alike and was strictly and absolutely honest. He was wont to say that a person must do lots of things for no pay and said he would rather give an old lady five cents' worth of snuff than put an advertisement in the newspaper. He was always as ready to praise as to censure. As a discipline and test of a steady nerve in pouring any ingredient from one bottle to another, he would have his clerks hold points of pins together to see how accurately it could be done. It was his practice to keep many things weighed out, ready for customers when called for. Paregoric and all essences were largely kept in bottles ready for immediate delivery. These were frequently sold to peddlers at wholesale. His boys were always kept busy at something and he generally had from three to five working for him, whose aggregate pay did not probably equal that of a good registered clerk of the present day. I am informed of one worthy clerk who started in with the Doctor at $6.00 per month and boarded himself. But at the end of the year, the Doctor presented him with $15.00, five dollars of it for not putting up anything wrong, and ten as a reward for faithfulness. At one time the Doctor in company with Dr. O. G. Dyer went into the grape business quite extensively and made some quantities of wine, but it did not prove profitable and was given up. Dr. Case was the first President of the old State Pharmaceutical Association. He was a brainy man and a good talker and debater at the meetings of the Association. He died in 1883, leaving a good property as one result of an energetic active life.

For the foregoing in regard to Dr. Case and the Brandon stores, I am largely indebted to Mr. H. D. Crooks.

BURLINGTON.

Dr. J. Peck, father of T. A. Peck and grandfather of Gen. T. S. Peck, started the first store early in 1806. He practiced medicine and ran a little store in connection with his practice. His son, T. A. Peck, took the business in 1839 and in 1840 formed a partnership with A. C. Spear. The store was refitted by them and was acknowledged to be the finest equipped store north of Boston. And it has also been reliably said to have been the most elegant store between New York and Montreal. Gen. T. S. Peck tells me that as a boy one of his duties in his father's store was to polish the marble and clean the enamel and gold of any dust or fly specks.

The front store was finished in white enamel, blue, and gold, with a marble floor (white and black) and a soda fountain, an old fashioned two arm apparatus, a great novelty in those days. The store must have been quite popular, as one drawer was devoted to tickets for the Whigs of '46. The firm of Peck & Spear was dissolved after a few years and T. A. Peck ran the store until 1861, when J. W. Roby, a clerk in the store, bought the business. In 1870, at the death of J. W. Roby, R. B. Stearns and A. C. Tuttle formed a partnership and bought the store, continuing in partnership for twenty-five years. In 1895 A. C. Tuttle retired from the firm and was succeeded by W. J. Henderson, who had been with the firm for twenty-one years. The partnership was dissolved in March, 1899, Mr. Henderson succeeding to the business. In January, 1907, Mr. Henderson retired, the firm of W. J. Henderson & Company continuing the business.

The fittings in the old store put in by Peck & Spear were in use from 1840 until the spring of 1875, when the lowering of the street necessitated the lowering of the floors four feet, and the store was then refitted with the present furnishings. The old store was fitted with a boiler for making syrups, copper still, large mortar and pestle, the latter working with a large stick which acted as a spring, so the arm of the apprentice would not get tired when he was making blue ointment, or blue mass. Everything was made in those days. The only pills in stock as late as 1874 were Bullock & Crenshaw's, and few kinds at that, and they might easily be used for bullets. Decoctions and infusions were brewing all the time and plasters were spread daily. In the old store castor oil had to be filtered or strained through a flannel filter. In the back of the store was a large cherry box containing a flannel filter; this was kept full of castor oil which dropped into a receptacle below, from which the dispensing bottle was filled. Herbs and roots were bought from country people who made a business of collecting them. Picra was kept "brewing" all the time and Elixir Pro and Thompson's Hot Drops were in great demand. This store for sixty-five years was the only store in the state dealing in surgical instruments. The old sign read "Dealers in Surgical Instruments, Leeches, and Genuine Patent Medicines."

For years there were only two stores in Burlington and no stores nearer than St. Johns, Canada, until Dutcher started a store in St. Albans. Why this proprietor failed to become wealthy is a mystery; in fact, A. C. Spear told Mr. W. J. Henderson one day that he thought they were contented with what

business they did and did not look for more. Here is an illustration of the way business was done here.

Back of the store were two large storehouses and a large back yard; all the surrounding country came here to trade and the back yard was constantly filled with four horse teams. The drivers of these teams did the shopping for their section. One of these, a boy, came into Peck's store and said he had a long list of wants. Mr. Peck came out to wait on him. The driver, before he gave his order, wanting to expectorate, looked all around for a spittoon, and finally spat on the marble floor. Mr. Peck, who was a very active man, jumped over the counter, took the boy by the ear and walked him out of the store. That ended his business with the store.

Dr. John Peck came to Burlington in 1804 from Woodbury, Connecticut. I append a partial copy of an advertisement by J. Peck & Company dated May, 1806:

J. Peck & Co.
At the sign of the mortar.
North side Court House Square, Burlington.
Have just received for sale, at reduced prices an extensive assortment of
Fresh Imported
Drugs and Medicines.
Dye-Stuffs, Dye-Woods, Paints, Oil, etc.
Among which are the following articles, viz.

Drugs and Medicines

Camphor, Opium	Peruvian Bark	Manna, Musk
Salt Peter, Mace	Rhubarb Salts	Jalap, Ipecac,
Flowers Camomile	Cream Tartar	Colombo Root
Etc.	Etc.	Etc.

Patent Medicine

Anderson & Hooper's Pills	Godfrey's Cordial	Ching's Worm Lozengers
Bateman's Drops	Balsam of Life	Stoughton's Bitters
Church's Cough	Steers Opodeldoc	Scott's Liquid Blue
Etc.	Etc.	Etc.

Dye Woods & Dye Stuffs

Fustic, Madder	Copperas, Allum,	Otter, Indigo
Camwood etc.	Blue Vitrol	Nut Galls

Paints, Oil, Etc.

Vermilion	Ivory Black	Litharge of Gold

Sundries

Essence of Spruce	Surgeon's Pocket & Teeth	Breast Pipes, etc.

Burlington, May, 1806.

MONTPELIER.

Mr. Edward Prentiss, son of Hon. Samuel Prentiss, former U. S. Senator from Vermont, started the first drug store in Montpelier some time prior to 1838, in the old Langdon building, corner of State and Main streets, the store being on the Main street side. The exact date I have been unable to ascertain; but at the above mentioned time the store was bought by Salvin K. Collins and Dr. Charles Clark, the latter a practicing physician in Montpelier at that time and of considerable note. Not long thereafter, Dr. Clark withdrew from the firm and Mr. Collins conducted the business till 1853, when he sold to Col. Fred E. Smith. The main reason why Mr. S. K. Collins gave up the drug business was his constant uneasiness lest some fatal mistake might be made in compounding prescriptions, he being of a very sensitive nature.

One of the early clerks of F. E. Smith was J. V. Babcock, now a retired druggist residing in Montpelier. Mr. Smith successfully continued the business

till the outbreak of the war, when he enlisted and sold to N. K. Brown, for many years past a resident of Burlington. Mr. Brown did a large business and became the proprietor of Brown's Bronchials, Brown's Teething Cordial, Brown's Essence of Jamaica Ginger, etc. In 1869 he sold to Dr. J. B. Woodward, a skillful practicing physician who had recently returned to his home state from Kansas. In June, 1870, Collins Blakely, having sold his drug store interest in Waterbury, entered into partnership with Dr. Woodward and a few months thereafter bought out the Doctor, and since that time has managed the store in the effort to earn an honest living for his family, now consisting only of himself and son. During this period of forty-two years, four of his clerks have owned and conducted drug stores in Montpelier, the valued Secretary of the Vermont State Pharmaceutical Association, W. E. Terrill, being one of this number. Mr. Blakely was one of the original first five members of the Board of Pharmacy, receiving his appointment from Governor Woodbury in 1894 and by successive re-appointments, continued on the Board for eight years, laboring to advance and elevate the professional standing of pharmacy in Vermont.

The original Board of Pharmacy was constituted as follows:

A. W. Higgins, President.
F. D. Pierce, Treasurer.
Collins Blakely.
C. C. Bingham.
J. G. Bellrose, Secretary.

About 1855 Levi F. Pierce and S. Mortimer Collins, son of Salvin K. Collins mentioned above, opened a drug store where the Slade store is now situated. Mr. Pierce was previously a clerk in the Collins store. He continued in the business till his death in 1862, when the store passed into the hands of Freeman Bixby and Col. C. B. Wilson and later H. R. Bixby, who was succeeded by Harry A. Slade. Mr. Slade now carries on the business.

J. V. Babcock and M. M. Cutler opened a store in November, 1868, under the name of Babcock & Cutler and continued until November, 1880, when Cutler withdrew. Babcock sold to W. E. Terrill September 8, 1892, and he in 1902 to Geo. E. Megrath.

S. P. Redfield opened a drug store in Montpelier not far from 1839. Not long after, Mr. Redfield formed a partnership with Dr. Tyler and continued the same for several years. When Dr. Tyler retired, H. D. Crooks from Brandon entered into partnership with Mr. Redfield under the firm name of Redfield & Company. This was in October, 1866. Mr. Crooks was a well posted druggist. This firm was continued until 1873 when the store was sold to Frank H. Bascom, who conducted this business till just before his death in 1890. Lester H. Greene of Syrup of Tar fame succeeded and conducted the business till March, 1901, when he sold to W. E. Poole, who in turn sold to L. C. Rivers, in 1910, who now conducts the store.

NORTHFIELD.

The Sanborn Store was established by Geo. Nichols in 1854. Nichols and Williams, 1866 to 1881. George Nichols, 1881 to 1893. Nichols and Sanborn from 1893 to 1898. George C. Sanborn, 1898 to date. George C. Sanborn

began to clerk with Nichols & Williams in 1878. Dr. Nichols was a prominent and efficient man and interested in public and state affairs. He held the office of Secretary of State for many years, and was an excellent presiding official at the joint assembling of the Legislature on the opening of the session.

The N. C. Ray & Company store was established by Dr. Edwin Porter in 1854, continued to 1894 and then sold to J. H. Judkins. J. H. Judkins from 1894 to 1909. N. C. Ray & Company since 1909.

PAWLET.

Charles W. Potter, of Pawlet, an early time druggist, was born in 1818 in Wells, Vt., but when quite young moved with his parents to Pawlet, the southwest corner town of Rutland County, bordering on the state of New York. His grandfather was captain of a trading vessel to the West Indies from New London, Conn. Joshua Potter, his father, was a physician of much note, having the largest practice in the vicinity of many miles. So great was the demand for his professional services, that he was on the road nearly all the time visiting his patients. Charles, his son, obtained a common school education, was a bright, intuitive scholar, and as a boy was always dabbling in chemistry. He invented the first matches that any one in the town ever saw—the match was lighted by dipping it in a vial containing some kind of solution. I have not been able to learn its component ingredients. He also invented another contrivance for producing fire. A piston rod was wound with paper, into which he poured melted lead, thus forming a lead pipe or tube; the rod suddenly plunged down ignited a piece of punk. He also made packs of cards.

At sixteen years of age, in 1834, he started a drug store in Pawlet village. He had studied medicine with his father, and had also earned and saved a little money by working in the "Factory Street" store a half mile from the village, owned and operated by the Pawlet Manufacturing Company, whose large three-story brick factory for making cotton cloth was located near by. The store and factory were torn down many years ago.

As an adjunct to his drug business, Mr. Potter painted signs, especially store signs, being very skillful in this line of work. However, in a short time he practically failed financially, but started again in the room under his brother Fayette's law office fronting across the street, and here for many years he did a large and thriving trade in handling drugs. He furnished medicine for all the doctors in many towns round about. Granville, N. Y., only six miles distant, was without a drug store until 1852 when the railroad first passed through the town; but now, a village of four to five thousand population, it has three well equipped stores. Before the building of the railroad it was not as large as the village of Pawlet. Mr. Potter had a monopoly of the drug trade covering a very large and good farming territory. His trade extended as far as and including Manchester on the south, a distance of fifteen miles, and to Poultney on the north, and nearly as far to the east and west. His knowledge of drugs and chemicals and their medicinal virtues and properties was thorough and accurate, and this combined with his intuitive perception, judgment and skill, secured for him the confidence of physician and a large public patronage. He installed a small soda fountain

in his store with much success, having made a net profit therefrom of over $400 the first year. In course of time he bought out a general store across the street from his place of business and moved his stock of drugs thereto. Mr. Potter retired from mercantile life about 1867 and built a commodious summer hotel on the southern shore of Lake St. Catherine in Wells, and conducted the same for about ten years or more, when he moved to Poultney where he lived perhaps a dozen years. His physical condition then becoming somewhat impaired, he removed to Los Angeles, California, for his health, and died there three years later, in 1905, aged about eighty-seven years.

RICHFORD.

The earliest date at hand of any drug business in this place is 1850, when Mr. A. W. Sears started a general store and kept a small stock of drugs and dye stuffs. But very little in this line was done till 1865, when Richard Smith bought out the Sears stock and moved it to a new building he erected. On the Mitchell corner has been the leading drug store since that time, over forty-six years. During several years a large part of the business was in crude dye stuffs, indigo, madder, logwood, catechu, cochineal, etc. Aniline dyes were then unknown and many of the people wore home-made clothing. These dyes were all purchased in bulk and the clerks had something of a task in weighing and putting them up. In many things the modern drug clerk has but slight conception of the work of a drug store of three score years ago.

In 1883 F. W. Mitchell bought the Sears business and built a fine new store in 1902, and is carrying on a good drug trade at the present time.

SPRINGFIELD.

A drug store was first started here by Charles Sabin in 1849. Mr. W. H. Wheeler from Fitzwilliam, N. H., was his partner beginning in 1852. In 1855 the firm name was F. W. Porter & Company. In 1873 Mr. W. H. Wheeler was sole proprietor, but for a number of years past, the firm has been W. H. Wheeler & Son. Mr. Wheeler is a very active man, has been for sixty years behind the counter and, to use his own expression, is "still at it." He is now eighty years old and works a whole day; not the day of the average drug clerk, but much of the time from six o'clock in the morning till 11 o'clock at night. In length of service, this is probably not equalled by any one in this state.

ST. ALBANS.

The Dutcher drug business, the first one in Vermont north of Burlington, was established in 1841 by L. L. Dutcher, who conducted it alone until 1843, when he took in his son, Frederick, under the firm name of L. L. Dutcher & Son. In 1858 the firm was again changed by the addition of another son, Daniel, and that concern, L. L. Dutcher & Sons, continued until 1874, when it was succeeded by Frederick, who carried on the business alone for six years. In 1880, A. L. Dutcher, son of Frederick, entered the business which was continued under the name of F. Dutcher & Son until 1885, when F. I. Dutcher, another son, was taken into the partnership under the firm name of F. Dutcher & Sons.

In 1892 the business was incorporated under the laws of the state of Vermont as the Fred'k Dutcher Drug Company, and has so continued until this time.

The Dutcher's Lightning Fly Killer was the first one ever made; it was started in 1858, the solution being made in a ten gallon farmer's kettle. At that time the sales of a season would amount to no more than what has been sold in a single day many times since.

Daniel Dutcher, son of L. L. Dutcher, owned and conducted a drug store for quite a number of years. There are in all five drug stores in St. Albans at the present time, but I am not able to give dates of their establishment.

ST. JOHNSBURY.

In 1845 J. C. Bingham bought of a dispensing physician, Dr. Luther Jewett, his stock of drugs and opened the Bingham drug store in St. Johnsbury. After moving two or three times, in 1855 he built a block on Main street, on the site of the present Sanborn Block, where the Masonic Hall is now located. This he occupied till 1870. At this time he moved into a new store built by himself on Main street in the brick block opposite the St. Johnsbury House, on which site the business has since been located. Mr. Bingham died in December, 1870, leaving two sons to succeed him; these were Charles C. and Henry M. The business was conducted under the name of Bingham Brothers for about two years, when on the death of Henry M., Charles C. succeeded to the business, and has conducted the store successfully since that time—for forty years—making a record of sixty-five years in the Bingham name. Charles C. has no sons, so the Bingham store must cease to do business under that name in a few years. C. C. Bingham was one of the original members of the Board of Pharmacy and held and honored that position for about ten years.

The Randalls have been out of the business for a good many years. Flint Brothers are conducting a good store of long standing. Others in the drug business at present are W. B. Eastman, who is always in attendance at the State Pharmaceutical Association meetings, F. G. Landry, and C. A. Searles & Company. I regret that owing to pressure of time, I have not data relating to these stores.

VERGENNES.

Fordyce Huntington, a son of Dr. Ebenezer Huntington, was for many years a merchant and druggist here, keeping dry goods on one side of his store and drugs and candies on the other side. I do not know the date of his establishment in business. He died in 1869, and was succeeded by John E. Young, who had been his clerk for many years. Mr. Young continued as a druggist until his death in 1882, when his brother, D. R. Young, succeeded him. The business was discontinued after a fire destroyed the block in which was Mr. Young's store.

Another drug store was started by a Dr. Sprague, followed by Walter G. Sprague, his nephew, who died in 1884. Other proprietors were Julius A. Hickok, Charles Dennison, D. H. Murphy & Co., and many others.

T. Neville started in business here in 1886, occupying the same store until 1907 when he moved into a larger store.

Mr. W. R. Warner has been in business about eighteen years, and besides

being a thorough druggist, is quite a politician, being a member of the Public Service Commission at the present time.

WATERBURY.

The drug business in Waterbury was started about the year 1855 by James M. and John F. Henry, and in 1857 William W. came from Colorado and joined the others, the firm name becoming J. M. Henry & Sons. Next it was J. F. Henry & Co., then Henry, Johnson & Co., then Henry & Co., afterwards E. D Scagel, Scagel & Fales, Burleigh & Frink, Blakely & Frink in 1869 and 1870, then Bennington & Frink, M. O. Evans & Bryan, and at the present time, January, 1912, G. C. Rocheleau.

Dr. Fales and Dr. Frink of the above named firms were practicing physicians, the former having an extensive practice. It was said of William W. Henry of the above Henry firms, that at the time Charles Dillingham was raising Company D. of the Second Vermont Regiment, that he became so patriotic and anxious to help his friend raise his company that he left the safe and store unlocked, and in three days the company was filled. Dillingham was elected Captain and Henry First Lieutenant. They were lucky enough to take part in the first battle of Bull Run. Henry was afterward Major, Lieutenant Colonel, and Colonel, and Brevet Brigadier General. J. M. Henry died in 1863, John F. went to New York and became for a time the patent medicine king of the country. He died a dozen or more years ago. William W. is living in Burlington, hale and hearty at eighty. The Henry firm was noted as being the proprietors of Down's Elixir, a cough and cold remedy which they purchased of the Rev. N. H. Down, who originated and manufactured the remedy on one of the back hills in the town of Westfield, Vermont.

Contributed and Selected

ASH AND MOISTURE CONSTANTS OF POWDERED VEGETABLE DRUGS.

AZOR THURSTON AND A. N. THURSTON, GRAND RAPIDS, OHIO.

Some time ago we published[1] an article under the above title. The results reported were obtained by analysis of commercial samples.

The great variation in the ash of a number of the powders lead us to believe that this line of drugs was grossly adulterated, therefore we ordered from two well known drug millers samples of the best grade of their products. They were informed for what purpose we wanted the drugs and no doubt they furnished as near pure articles as were obtainable. The wide variation as shown by the results of analysis would certainly indicate that even the best obtainable drugs will vary greatly.

Determinations as here reported are as follows—moisture, ash, water soluble ash, water insoluble ash, alkalinity of water soluble ash and alkalinity of water insoluble ash.

In every case exactly 2 grams of the sample were used for the determinations. The amount reported as water or moisture includes all the volatile portion at 100° C. The ash was obtained by incinerating the dried solids. In case of incomplete combustion of the carbon a few drops of water was added to the ash and evaporated to dryness on a water bath, then again brought to a red heat. This treatment worked fully as well as the customary method of "leaching out" and with less chance of error.

The alkalinity of ash is represented as the number of cubic centimeters of decinormal acid required to neutralize the ash from one gram of the sample Methyl orange being used as indicator.

With one exception the drugs reported are official in the U. S. P. VIII. Belladonna Leaves is the only one that has U. S. P. official ash standard and the samples analyzed gave 12.78 and 14.43 percent ash which comes well within the standard of 15. Hydrastis gave 5.44 and 10.99 percent ash while four[2] foreign pharmacopœias have a standard of 6 percent ash.

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[1]Proceedings Ohio State Pharmaceutical Association, 1911, page 69.

[2]Jr. A. Ph. A., Vol. I, page 457.

	H_2O	Sol. ash H_2O	Ins. ash H_2O	Ash Total	Alkalinity of Ash. H_2O Sol.	Alkalinity of Ash. H_2O Insol.	Alkalinity of Ash. Total	LaWall and Bradshaw
Aconite Root (Aconitum Napellus)	10.77	.86	3.47	4.33	1.19	2.82	4.01	4.05
	10.15	1.22	3.43	4.65	1.15	1.80	2.95	
Arnica Flowers	11.42	3.08	6.95	10.03	2.29	5.28	7.57	7.48
	8.52	2.90	5.54	8.44	1.8	4.	5.8	
Belladonna Leaves	13.40	6.88	5.90	12.78	7.26	4.30	11.56	13.2
	7.65	6.31	8.12	14.43	6.55	4.65	11.20	
Belladonna Root	9.30	3.10	4.11	7.21	3.3	2.3	5.6	
Black Haw Bark (Viburnum Prunifolium)	8.47	.36	11.16	11.52	.88	6.15	7.03	7.3
	9.54	.54	9.61	10.15	.9	4.1	5.	
Black Cohosh Root (Cimicifuga)	12.38	1.89	2.98	4.87	2.35	2.89	5.24	9.65
	9.49	.28	7.29	8.57	1.55	1.8	3.35	
Blackberry Bark of Root (Rubus)	9.78	.83	3.12	3.95	1.07	3.84	4.91	7.1
	10.40	.71	4.26	4.97	1.	2.8	3.8	
Blood Root (Sanguinaria)	10.69	1.66	3.03	4.69	1.47	3.13	4.60	4.55
	8.79	2.56	4.61	7.17	2.65	1.8	4.45	
Boneset Herb (Eupatorium)	9.42	2.54	5.61	8.15	1.88	7.71	9.59	7.5
	8.40	2.30	4.55	6.85	1.35	3.45	4.80	
Broom Tops (Scoparius)	8.60	.94	1.07	2.01	1.08	1.65	2.73	
	7.95	.98	2.67	3.65	.95	1.95	2.90	
Buchu Leaves	11.12	1.29	4.51	5.80	1.27	4.26	5.53	4.62
	5.55	.08	4.86	4.94	1.5	1.8	3.3	
Buckthorn Bark (Frangula)	7.73	.27	6.13	6.40	1.52	4.69	6.21	4.2
	6.72	.58	5.92	6.50	1.55	4.25	5.80	
Columbo Root	12.36	2.56	3.72	6.28	2.33	2.74	5.07	8.67
	11.55	1.70	7.79	9.49	1.2	3.1	4.3	
Chamomile Flowers, German	9.37	2.75	16.30	19.05	1.35	4.05	5.40	10.66
" " Hungarian	13.48	3.83	7.82	11.65	2.08	4.89	6.97	
" " Roman	11.78	2.55	3.12	5.67	1.80	3.08	4.88	5.12
	8.45	2.48	3.97	6.45	1.25	2.85	4.10	
Colchicum Corm	9.77	.98	1.67	2.65	1.14	1.54	2.68	2.25
	8.58	1.06	3.61	4.67	.7	1.85	2.55	
Cotton Root Bark	8.71	1.81	2.79	4.60	2.06	3.73	5.79	5.2
	10.71	1.94	4.49	6.43	1.8	3.1	4.9	
Couch Grass (Triticum)	8.24	1.47	1.06	2.53	.96	.55	1.51	3.31
	7.96	.64	12.83	13.47	0.35	1.4	1.75	
Cramp Bark (Viburnum Opulus)	7.78	.68	2.94	3.62	1.40	3.43	4.83	3.35
	6.87	.49	3.49	3.98	1.1	2.8	3.9	
Cranesbill Root (Geranium)	10.39	.91	6.38	7.29	.74	8.10	8.84	6.4
	9.5	.84	9.26	10.10	1.55	7.6	9.15	
Coca Leaves	12.12	2.62	6.33	8.95	1.26	10.77	12.03	10.6
Culvers Root (Leptandra)	9.77	.30	11.67	11.97	.30	2.53	2.83	9.1
	6.61	.28	30.11	30.39	.25	3.25	3.50	
Dandelion Root (Taraxacum)	13.76	1.59	3.83	5.42	1.03	2.31	3.34	
	10.50	.83	5.14	5.97	.45	2.75	3.20	
Elm Bark (Ulmus)	8.64	1.48	6.04	7.52	3.19	10.10	13.29	9.7
	8.95	.99	11.25	12.24	2.85	9.70	12.55	
Foxglove Leaves (Digitalis)	8.06	3.93	3.20	7.13	4.60	2.80	7.40	8.1
Gelsemium Root	9.52	.52	1.95	2.47	.63	2.12	2.75	1.4
	8.28	.40	2.22	2.26	.5	1.7	2.2	
Gentian Root	12.45	.35	2.89	3.24	.69	2.69	3.38	2.6
	12.41	.16	5.26	5.42	.3	2.3	2.6	
Golden Seal Root (Hydrastis)	10.52	1.97	3.47	5.44	.64	3.63	4.27	9.15
	8.88	1.57	9.42	10.99	.2	2.7	2.9	
Hops (Humulus)	9.11	2.96	6.74	9.70	1.65	6.05	7.70	
	3.77	3.38	6.75	10.13	1.03	2.01	3.04	
Horehound Herb (Marrubium)	10.89	4.67	9.05	13.72	5.12	6.02	11.14	22.8
	10.97	4.12	15.37	19.49	4.6	7.25	12.15	
Hyoscyamus Leaves	11.25	4.05	13.62	17.67	2.52	14.95	17.47	
	6.69	2.50	29.04	31.54	1.1	8.35	9.45	
Jaborandi Leaves	7.13	1.43	5.42	6.85	1.	1.9	2.9	4.8
Ladies Slipper Root (Cypripedium)	9.67	.65	9.94	10.59	1.14	2.75	3.89	
	1.02	.46	31.32	31.78	.3	3.05	3.35	
Lobelia Herb	9.3	2.45	5.83	8.28	2.46	5.48	7.94	11.65
	8.21	1.82	7.77	9.59	1.8	3.8	5.6	
Male Fern (Aspidium)	10.7	.75	4.69	5.44	1.	.95	2.69	3.6
Mandrake Root (Podophyllum)	11.07	1.41	1.61	3.02	1.10	1.59	2.69	3.6
	10.15	1.22	4.14	5.36	1.2	1.95	3.15	
Marigold Flowers (Calendula)	11.72	4.75	4.11	8.86	3.88	3.49	7.37	7.91
	9.41	3.13	6.48	9.61	2.15	2.2	4.35	
Marshmallow Root (Althaea)	11.81	2.38	2.77	5.15	1.17	3.03	4.20	5.49
	9.16	2.22	5.09	7.31	.55	4.15	4.70	
Matico Leaves	6.55	3.35	15.84	19.19	2.39	6.98	9.37	16.4
	7.78	3.	11.58	14.58	2.5	3.95	6.45	
Mezereum Bark	9.74	1.03	2.72	3.75	1.55	4.29	5.84	3.8
	8.11	1.47	4.12	5.59	1.7	3.05	4.75	
Pareira Brava Root	9.49	.78	4.68	5.46	.90	5.67	6.77	2.9
	7.87	1.02	8.88	9.90	.65	1.45	2.1	
Pellitory Root (Pyrethrum)	7.12	2.13	2.56	4.69	2.04	2.85	4.89	6.1
	10.10	1.86	4.20	6.06	1.85	3.65	5.50	
Pennyroyal Herb (Hedeoma)	9.48	3.08	7.93	11.01	3.60	5.45	9.05	16.9
	8.10	2.10	7.24	9.34	2.4	4.15	6.55	
Peppermint Herb	9.99	5.47	6.39	11.86	4.42	6.	10.42	10.63
	8.76	4.62	8.1	12.72	4.	6.25	10.25	
Pink Root (Spigelia)	11.02	1.44	6.49	7.93	1.24	4.01	5.25	
	8.28	.60	29.43	30.03	.25	3.5	3.75	
Pipsissewa Leaves (Chimaphila)	7.98	1.03	3.14	4.17	1.23	4.36	5.59	3.2
	8.96	.84	5.81	6.65	1.1	3.75	4.85	

	H_2O	H_2O Sol. ash	H_2O Ins. ash	Total Ash	Alkalinity of Ash. H_2O Sol.	Alkalinity of Ash. H_2O Insol.	Alkalinity of Ash. Total	LaWall and Bradshaw
Poke Root (Phytolacca)	13.15	6.22	3.34	9.56	7.61	2.43	10.04	11.1
	12.39	6.8	6.23	13.03	8.7	3.05	11.75	
Pomegranate Bark	7.1	1.32	14.45	15.77	.83	19.60	20.43	
	10.64	.54	12.45	12.99	2.2	18.5	20.7	
Prickley Ash Bark (Xanthoxylum)	10.27	.54	7.82	8.36	1.95	6.09	8.04	5.
	8.24	.93	5.25	6.18	2.	2.2	4.2	
Sage Leaf (Salvia)	8.23	2.60	5.44	8.04	2.83	7.88	10.71	6.69
	8.12	2.16	6.62	8.78	2.5	7.2	9.7	
Sarsaparilla, Honduras	9.47	1.87	2.83	4.70	1.12	3.07	4.19	
	8.19	1.07	12.96	14.03	.4	1.5	1.9	
" Mexican	7.45	1.77	12.45	14.22	.47	3.61	4.08	
	7.45	1.5	33.07	34.57	.45	3.85	4.3	
Sassafras Bark	9.87	.78	2.85	3.63	.69	1.71	2.4	4.15
	1.81	.33	13.38	13.71	.2	1.5	1.7	
Savine Tops	7.74	.86	6.68	7.54	1.41	9.53	10.94	
	3.86	1.04	7.46	8.5	2.15	4.35	6.5	
Senega Root	7.69	.82	3.21	4.03	.55	1.69	2.24	5.05
	9.65	.42	3.88	4.3	.6	1.6	2.2	
Senna Leaves, Alexandria	10.56	2.15	7.29	9.44	3.	12.04	15.04	8.2
" " T. V.	8.17	2.14	12.18	14.32	1.25	3.45	4.7	
Serpentaria Root	11.91	.75	16.04	16.79	.32	4.79	5.11	
	6.59	.65	36.54	37.19	.5	2.	2.5	
Soap Tree Bark (Quillaja)	8.02	1.96	17.34	19.30	4.2	30.3	34.5	9.3
Spearmint Herb	9.49	4.89	6.24	11.13	4.44	7.96	12.4	9.7
	9.99	5.08	5.32	10.40	4.	2.3	6.3	
Stillingia Root	10.99	.99	4.43	5.42	1.11	5.10	6.21	
	10.19	1.28	5.57	6.85	.5	1.3	1.8	
Stramonium Leaves	11.12	1.29	4.51	5.8	6.67	6.1	12.77	18.81
	7.19	5.30	14.8	20.1	4.6	8.35	12.95	
Sweet Flag Root (Calamus)	12.03	1.47	1.62	3.09	.87	1.74	2.61	3.5
	10.43	1.15	4.73	5.88	.5	1.35	1.85	
Uva Ursi Leaves	8.27	.72	2.66	3.38	.83	3.06	3.89	
	9.82	.58	6.43	7.01	.85	3.5	4.35	
Valerian Root, Belgian	8.04	1.01	17.42	18.43	.29	2.43	2.72	
" " English	6.92	.94	30.32	31.26	.35	2.7	3.05	20.15
Wahoo, Bark of Root (Euonymus)	11.24	1.41	8.75	10.16	1.54	6.33	7.87	11.1
	9.	.7	13.88	14.58	1.	4.2	5.2	
White Oak Bark (Quercus alba)	8.86	.3	5.87	6.17	2.14	6.03	8.17	6.8
	9.37	.63	7.8	8.43	1.8	7.2	9.	
Wild Cherry Bark	9.09	.49	3.12	3.61	.97	4.68	5.65	3.4
	8.49	.71	6.86	7.57	1.6	2.1	3.7	
Witch Hazel Bark	7.66	.1	4.44	4.54	1.83	4.45	6.28	
	9.61	.45	5.29	5.74	1.3	4.7	6	
Witch Hazel Leaves	9.64	1.78	2.4	4.18	1.46	2.71	4.17	5.55
	9.62	.86	5.58	6.44	1.05	3.	4.05	

For comparison we have given in column eight the average ash of samples as determined by LaWall & Bradshaw.[3]

Lloyd[4] in his classical work on hydrastis does not mention an ash standard. The ash as a standard of itself should not be considered in case of alkaloidal drugs like hydrastis, but it is of sufficient importance to add another constant when adulterations are so prevalent.

THE DISPENSING OF OILY SUBSTANCES.*

J. LEON LASCOFF, NEW YORK.

In presenting this subject to you I have borne in mind the fact that prescriptions submitted to us with oily substances are difficult to dispense in a form which shall be both elegant in appearance and have uniform distribution. I refer especially to mineral oils.

Oils of the hydrocarbon variety are not easily miscible with some ingredients: firstly, their tendency when standing is to separate themselves; secondly,

[3] Proceedings A. Ph. A., 1910, Vol. 58, pages 750-755.

[4] Lloyd's Drugs and Medicines, pages 76-184.

* Read before the Kings County Pharmaceutical Society, March 11, 1912.

a mineral oil is not a ready solvent for every drug and chemical. These facts need to be taken into consideration more now than ever before, as prescribers are using them more frequently and manufacturing concerns are bringing out new refinements of oil almost daily; each bearing another trade name and almost all differing in their solubility and absorbing qualities.

I shall demonstrate by illustration later on how some of these prescriptions look very simple and show no evidence of any difficulty on their face.

For many years *Liq. Petrolatum* of the U. S. P. was the standby of the prescriber and was the only hydrocarbon oil that entered into the usual prescriptions for atomizing purposes and for oleaginous applications. It was prescribed in combination with Menthol, Thymol, Eucalyptol, Ol. Eucalyptus, Ol. Pini Sylv. and Ol. Pini Pumilionis.

Then the more refined and purer petroleum oils such as Albolene, Benzonol, or Glymol, etc., were added to the therapeutic list.

Other hydrocarbon oils are prescribed under the following names: Paraf. Liquidum, Mineral Glycerin, Glycolene, Russian Oil, (a statement was made by a certain physician of the West Side that when he prescribed Russian Mineral Oil, in each case the pharmacist called him up and inquired what he meant by this), Vaseline Oil, etc. Oils in combination on the market are: Rubrol (red color), Viridol (green color). Sprays: Sabolol spray, Pinoleum spray, etc.

The physician already informed of the latter oils prescribes them freely, even for internal use (such as aromatic albolene). Then, as is always the case, the physician experiments with combinations of various chemicals with the same oils even as far as adding alkaloidal salts, which of course adds danger to improperly dispensed prescriptions, if there be any difficulty in obtaining an equal distribution of the potent drug.

The convenience of emulsifying combinations containing oily ingredients with acacia has lessened the labors of the pharmacists, and when any difficulty was met with in obtaining a desirable mixture, an emulsion was the solution of the problem. This has not been the intention of the prescriber in most of the cases, as for instance, to use an emulsion of the hydrocarbon oils with acacia for atomizing purposes or for ear drops.

It is the duty of the pharmacist to produce an accurate and uniform finished product, and to manipulate the ingredients in such a way as to produce either a clear or a proper suspension to insure uniformity of the ingredients prescribed. The following are some examples:

℞ 1. Camphorae ..... ½ gr.
Mentholis ..... ½ gr.
Glycerini ..... 2 dr.
Natrii bicarbon ..... 3 gr.
Liq. albolini, Ad..... ½ oz.
M. Sig. Ear Drops.

—*Dr. B.*

Dissolve the camphor and menthol in a small quantity of Albolene with application of heat. The bicarb. of soda in the 2 drams of glycerin in the same manner (in a separate receptacle). In order to combine these to make a staple and uniform mixture add a little lanolin (anhydrous) and mix all well together.

The resulting mixture makes a uniform suspension and there will be no separation on standing.

℞ 2. Resorcini 0.5
Albolini 50.0
M. Sig. Drop into ear as directed.

—*Dr. F.*

As the resorcin is not soluble in albolene, or by heat, we dissolve it in a very small amount of alcohol, rubbing slowly in a mortar and then add the required amount of the albolene and a clear mixture is the result.

℞ 3. Resorcini 0.3
Mentholis 0.2
Albolini 30.0
M. Sig. Ear Drops.

—*Dr. Davidson.*

In this case dissolve the menthol in the albolene by slow heating. Dissolve the resorcin as in the previous prescription and then mix together and a clear solution results.

℞ 4. Cocaini hydrochloridi 0.2
Sol. adrenalini hydroch 6.0
Mentholis 0.1
Liq. petrolat. q. s ad..... 30.0

The adrenalin is not miscible with mineral oils, therefore use the adrenalin inhalant, which is an oily solution of some strength and dissolves easily in the oil. Instead of the salt of cocaine use the pure alkaloid which is soluble in liquid petrolatum by heat. Put the menthol into the bottle while the liquid petrolatum is still warm; it will therefore dissolve and the entire mixture is clear.

℞ 5. Mercury salicylatis in albolini..... 20%
Sig. To be used for injection.

Mercury salicylate we all know is not soluble in albolene nor does it remain in stable suspension for any length of time. The precipitate is thick, heavy, and very difficult to agitate, and as this is one of the most important mixtures with a very strong and powerful drug and used for deep injections, a uniform and easily subdivided solution must be made. In order to produce this effect emulsify the salicylate of mercury with the albolene by the addition of one-half percent of lanolin anhydrous.

℞ 6. Tr. benzoini co..... 1 dr.
Eucalyptolis ..... 10 M.
Benzoinolis liq. q. s..... 1 oz.
Spray throat.

If this prescription is compounded as written the benzoinol separates from the entire mixture. Rub the tr. benzoin compound with a little lanolin and one-half the quantity of Benzoinol. Apply a little heat to dissolve, add the eucalyptol and the balance of the benzoinol and the result is perfect. The doctor is under the impression that because benzoinol is a benzoin preparation the compound tr. benzoin should dissolve with it, but we know that it does not.

℞ 7. Mentholated oil 10%
Sabolol oil q. s..... 30.0

In this prescription I simply mention this to indicate the intent of the pre-

scriber. The mentholated oil 10% means menthol dissolved in albolene or any other mineral oil in the percentage of ten, and sabolol oil is sabolol spray, a proprietary article, in its original state.

℞ 8. Quinine and urea hydrochl. 0.6
Mercury salicylate 3.0
Adepis lanal. (anhydrous) 1.0
Ol. olivarum 30.0

The proper way to dispense this prescription is to dissolve the quinine and urea hydrochl. in a few drops of water, emulsifying with the lanolin, then adding the mercury salicylate. Then rub up well with the ol. olivarum. Care must be taken that this preparation should be thoroughly sterilized.

℞ 9. Euresolis (Knoll) 3.0
Calamini praep. 6.0
Zinci oxidi 9.0
Amyli 12.0
Ol. olivar. 15.0
Magnesiae lactis (Phillips).

This prescription was sent to me by Mr. H. A. Voght, a pharmacist, who found some difficulty. I tried it according to his description of the method he used in dispensing it and found it satisfactory. The following is the method:

Saponify olive oil and euresol with the milk of magnesia. Rub up with starch, zinc oxide and calamini, then q. s. rose water.

℞ 10. Camphorae 0.2
Mentholis 3.0
Ol. pini pumilionis 2.0
Milk magnesia q. s. Ad. 60.0

Rub up the camphor in a glass mortar with the menthol and ol. pini pumilionis, then saponify with the milk of magnesia, and it will form a nice uniform mixture, and the camphor as well as the menthol will be in suspension. No acacia is necessary in this case, in spite of the fact that I have known it to be used.

℞ 11. Ext. aloes ..... ½ gr.
Podophyllini ..... ¼ gr.
Cascarini ..... ¼ gr.
Ol. carui ..... 1 M.
D. t. D. Pill No. 24.

In this prescription you will notice that one M. of the ol. carui. is prescribed per dose. Some pharmacists use extract of licorice as an excipient, but it is far better to emulsify the oil with a little acacia and then add the other ingredients, when it will form a nice mass from which the oil will not be separated.

℞ 12. Nitroglycerini ..... 1/100 gr.
Extr. nuc. vom. ..... 1/8 gr.
Ext. digitalis fl. ..... 1 M.
Zinci valerianici ..... 3 gr.
Ol. mentha. pip. ..... 3 gr.
M. f. D. t. D. Capsules No. 30.

This prescription was dispensed in several stores and different methods were used. Some of them, from the appearance of the capsules, formed a dry mixture of all the ingredients and dropped the oil of peppermint in afterwards. The finished products were not of elegant appearance.

My method was to emulsify the oil of peppermint with a little acacia and then add all other ingredients, using also extract glycyrrhiza, which formed a nice mass.

℞ 13. Methylene blue 0.2
Phenyl. salicylatis 0.3
Ol. santali 0.4
M. f. D. t. D. Capsules No. 30.

Dissolve the phenyl salicylate in the santal oil by application of heat, then rub up the methylene blue with a little sugar of milk and divide in thirty capsules, then with a dropper put in each capsule 0.4 santal oil. Seal and put into a larger capsule.

A different method was used by another pharmacist. He mixed the phenyl salicylate with the methylene blue and then rubbed same together with santal oil and then divided into capsules. This was not the proper method because there was not an equal division of doses.

℞ 14. Ol. gaultheriae ..... 2 dr.
Ol. terebinth ..... 2 oz.
Alcohol q. s..... 4 oz.

In compounding this prescription in the order written it will turn out a cloudy mixture, but by mixing the oil of wintergreen with the alcohol and adding the latter to the ol. terebinth little by little it will form a nice, clear mixture.

All of the prescriptions which I demonstrated to you were presented in our store for dispensing and written by various medical men, with the exception of the one by Mr. Voght mentioned heretofore.

It is true that some of these difficulties might be easily overcome by any experienced pharmacist, or even by a student of a college of pharmacy, yet we must consider the fact all are not experts, and that when we strike a snag it is our duty to experiment, with the prescription at hand. I have shown to you that with a little care and more perseverence we may obtain brilliant results. There should be nothing to discourage repeated experimenting in our profession. We owe that to ourselves, to the prescriber, and to the patient. The everyday pharmacist, in the rush of his work, is not expected to be an expert, yet I am positive that he is willing to learn from the experiences of his colleagues, and therefore the frequent publications in the pharmaceutical press of just such material as I have offered you should be more and more practiced and encouraged. All our ideas do not originate within ourselves; we must learn by absorption and very many of my successful experiments have been the result of reading and listening to the effort of other colleagues.

Any junior clerk, without experience or pharmaceutical education, can mix five or six or more ingredients, if he knows how to measure and weigh, and then if the preparation does not mix or combine put on a shake label.

I once had a very capable assistant who dispensed a great many prescriptions per day in the store where he was formerly employed, but he acknowledged that it was done mechanically, and that he was never allowed to make the prescription over again if it did not look satisfactory, because time and material would have been wasted.

In conclusion, it should be the pride of every pharmacist to send out from

his prescription room preparations which he feels have been given the benefits of all pharmaceutical knowledge that is within him, and never to say to himself that is good enough, or that it will serve the purpose. He must consider that his duty is fully completed only when his conscience tells him that he did what was right and that he would not hesitate to apply the preparation to a member of his own family or even to himself.

THE COMMERCIAL ADVANTAGES OF PROPERLY APPLIED PROFESSIONAL PHARMACY.*

FRANKLIN M. APPLE, PH. G., PHAR. D.

When solicited by your learned Dean, Prof. Sturmer, to address you upon this topic I was prompted to reply in the negative to his request, but, upon second thought presuming that I may be able to present at least one thought that may prove helpful to uplift pharmacy—both professionally and commercially—I agreed to offer a brief discourse, for which I bespeak your charitable criticism.

Upon taking up this topic for discussion it is necessary to ascertain if it is possible to absolutely divorce commercial pharmacy from professional pharmacy. Can one view professional pharmacy in all its phases without taking into consideration the commercial aspects of the subject? I feel certain, in the light of our customs and the laws upon the subject, that it is impossible to ignore the question of reward for services rendered to society in any professional vocation, unless one is endowed with such an abundance of worldly goods that he can take up his professional work as an altruist; but there are very, very few of those of our calling who could afford, if they so desired, to join the ranks of those of our citizens who are so generously provided with riches that they can follow the lead of some others who endeavor to appease their troubled consciences by making donations to colleges, institutions, libraries and movements for the betterment of the society against which they have greatly sinned. Such being the facts we must be guided by the conditions that surround the great majority of those of our calling, and recognize the commercial side of professional pharmacy as a necessity.

At the outstart I do not wish you to confound commercial pharmacy as practiced today in many establishments with the commercial pharmacy of which I wish to speak, for they are absolutely incompatible. To some, yea, many minds commercial pharmacy means customs, practices and merchandising that are flagrant cases of misbranding when the name pharmacy is attached thereto, having about as much right to have that honored name appended to their trading as a clothes horse has to be recognized as a member of the equine family.

The topic under consideration would indicate that there exists such a calling or occupation as professional pharmacy. What constitutes such a vocation?

Professional pharmacy consists of the art and science of selecting, preserving,

* Read before the Senior Class of the Medico-Chi College of Pharmacy, February 28, 1913.

preparing and compounding drugs and medicines such as will serve as aids to the medical men in the cure, mitigation or prevention of disease.

Commercial pharmacy of the true type, consists of the proper methods of disposing of one's professional pharmacy efforts, in order to gain an honorable livelihood; and it stands to reason that the better the grade of professional pharmacy one has to offer to the medical men and to the public the greater will be the rewards received in a commercial way.

How is one to acquire the best quality of professional pharmacy?

In the light of experience of scores of years it has been proven that practical experience, coupled with a proper course of training in a first class college of pharmacy—in such as it is your good fortune to be enrolled—is the best manner in which to become proficient as a safe and skillful handler of drugs and medicines—one who can command the confidence and respect of the medical profession, and of the public; provided you conduct yourself and your establishment of business in a manner that will not offset and nullify your professional qualifications.

Now we have reacheed the point upon which I wish especially to direct your attention, and I will endeavor to point out the advantages, commercially considered, of the suggestions to be offered to you.

Quite recently I noticed in the daily papers an account of a reception tendered to Dr. Isaac Sharpless, President of the Haverford College, at which time and place he is reported to have given utterance to the following statement:

"The world today is becoming more and more professional and business is now regarded as one of the professions. Are we doing what we should for those who go into business? Business is a profession and there is an increased demand in that profession for college trained men, for it requires a highly developed intellect."

Certainly business cannot yet be placed upon the same plane as the three "learned professions"—Law, Theology and Medicine (of which last profession Pharmacy is a recognized special branch), but if it is to be classified as a profession, it most assuredly is incumbent upon the members of the learned professions to most carefully inspect their business customs and standards, as they certainly are expected to show due respect in their transactions with their fellowmen for the dignity of their calling. Unfortunately many of those of our calling have been careless and unmindful of these obligations, having followed the practices and customs of non-professional merchants, who have no respected standards to uphold and protect; but in many instances that I have observed in a quarter century's connection with this professional calling, such neglect has brought its own swift and sure results—dismal failure to the proprietors.

On the other hand I can bring to mind many instances of fellow pharmacists who have conducted their establishments in a dignified and confidence-producing manner, fortified by a thorough professional training in pharmacy, who have triumphed in close competition with merchandising establishments misbranded as drug stores, and have built up reputations that will be life-long assets.

How can we most properly apply our professional pharmacy?

We can do so by acts of omission and acts of commission, also by precau-

tionary measures, to avoid and combat if necessary, harmful influences. Thoughtlessness and unguarded cooperation in the plans and schemes of sordidly selfish manufacturers is one of the chief causes for failure upon the part of pharmacists to get the full measure of benefits from their professional qualifications, as is evidenced by the following examples:

a—Using in one's work cheap substitutes for standard remedies prescribed by the medical men, or using impure or valueless preparations purchased from unreliable resources of supply just because the element of cost absolutely ruled the transaction.

b—Permitting one's store room and show windows to be debased and defiled by displays of goods of questionable therapeutic value, also using advertising placards that are good samples of certificates of qualification for membership in the Ananias Club.

c—Feeling a false sense of pride in having one's name and address appended to the advertisements of many of the nostrums that flood our markets today. Ofttimes, if you knew the true composition of the products and their therapeutic value (?) you would want to sue the man responsible for associating your name with his goods.

d—Because the degree of Graduate of Pharmacy or Doctor of Pharmacy has been conferred upon you, do not allow yourself to be deluded into the belief that it is synonymous with Doctor of Medicine, with the rights that pertain thereto morally and legally. Each has its place and special work to do, which the other one cannot properly fill or perform.

e—Encouraging the public to continue self-medication by offering it a full line of preparations labelled with suggestive therapeutic titles. An old adage states that he who has himself as a client in a case of law is a fool and how very appropriately can this be made to apply to one who is ill, when he endeavors to supplant the regularly educated and licensed medical practitioner.

f—Claiming to conduct a first-class, safe, reliable pharmacy, when it may be a fact that the assistants employed therein are not of a responsible age, have had no good practical experience and have not a sufficient amount of good common sense and education. Remember that bluffing and misrepresentation will not go unrewarded very long in these days of enlightenment and higher education; also that you will not alone suffer the consequences of such unwise, foolhardy and unfair customs, but the entire profession must stand the knocks of our enemies, for we assuredly have an abundance of the latter to contend with these days of license—mistaken for liberty.

How can we properly apply our knowledge designated as professional pharmacy?

a—The first thought that must be borne in mind is the fact that you have been trained and educated as a member of one of the learned professions, which places upon you obligations as well as it confers upon you privileges and honors, and you cannot shirk these obligations so long as you number yourself amongst the members of the pharmaceutic profession. If you have not heard of them kindly remember henceforth that a code of ethics has been supplied for each

one of the learned professions and their associated branches, and we are no exception to the rule.

b—As we are recognized as a branch of the medical profession it is self-evident that we should become well and favorably known to the members of that calling, and invite them to inspect our places of business, our equipment, our drugs and preparations, the evidences of our respect for their rights to be noted therein, the character of men employed to compound their prescriptions and dispense the commodities ordered by them for their patients.

c—Displaying your diplomas in a prominent place in your place of business, thereby showing to the laity and to the medical men your credentials, for which you labored so very hard, and possibly suffered many privations in your quest of them.

d—Demonstrate your qualifications as a Pharmacist by manufacturing your preparations of the U. S. P. and N. F., except in such instances where you cannot conscientiously properly prepare them. It is no disgrace to concede that some preparations can be better prepared by those specially equipped to manufacture them, in fact the U. S. Government permits a few of our medical agents to be prepared only in especially licensed establishments. Never allow your pride to deter you from supplying the very best medicine that can be produced, from whatsoever source it may come, for the needs of the diseased patient are paramount to all other issues.

e—The proper preservation of drugs, chemicals and their preparations is recognized as being very essential to their activity being conserved, hence vigilance and intelligence are ever-more demanded of the dispenser.

f—Pricing of prescriptions is one of the most vital questions to be considered in the practical application of professional pharmacy, as it is the compensation we receive for materials supplied and for services rendered. A universal code of marking prescriptions has been prepared by one of our national associations, which is a very fine system to be guided by, provided an intelligent and well-posted party estimates the charges to be made. Ofttimes I have observed a total absence of these qualifications, judging from the figures marked upon the copy of the prescription. Do not make it a custom to gratuitously give the patient your services, making a charge only for materials used at a fair profit. If you employ a first-class prescriptionist you must (or should) pay him a goodly salary and you are certainly entitled to receive the cost of his services to you plus a reasonable profit together with the legitimate charges for the materials used.

g—I have touched upon the question of the clerk in the above paragraph but I wish now to elaborate somewhat upon this subject as it is a very vital one in the proper application of your professional pharmacy—as you will soon agree with me I feel certain. To each of you embryo pharmacists the question will soon arise: shall I become a proprietor or shall I seek employment in the store of some other pharmacist? Before hastily coming to a conclusion in this matter, I would advise that you carefully investigate the commercial conditions that exist today, the percentage of failures that are recorded in the life-time of the average business man, the tendencies of the members of the medical profession in the treatment of disease and the new force that must be contended with in the form

of the Parcel Post, which certainly works to the advantage of the established, large corporations and firms at the expense of the smaller dealers. I ask you to seriously consider these factors because they all have their influence upon the standards of our professional calling, for it is a well known fact that a superabundance of any sort of laborers or professional men leads to practices that are not conducive to good business ethics or legal practices. Evidence of the verity of this can readily be found in recent newspaper accounts of cases appearing in our federal courts.

h—I cannot conclude these words of suggestion and advice without reminding you of the fact that we are living when everywhere is to be seen progression in all lines of activity; hence when you have received your degree from your Alma Mater, which indicates that you have completed a designated course of study, do not deceive yourself by thinking that your course of study has been completed for your life-time, for, if when you graduate you should know all that has been stored up by generations past for your benefit (which fact I doubt very much), you will soon become a back number, qualified to be included amongst "the old fossils," unless you continue your studies by a system of home studies, from the pens of the best workers in pharmacy circles—professional and commercial.

Where and how shall you economically, conveniently and advantageously find this course? The course has been provided for the past half century by an association of pharmacists, which has ever been active in the best interests of an honorable, dignified and enduring profession of pharmacy, a member of which every respectable votary of pharmacy should become without delay. I refer to the grand, old American Pharmaceutical Association, of which association the majority of your faculty are active members. With the advent of the Journal of the association a most convenient form of sending you the course for home study has been provided, and you will find it over-running with golden nuggets of knowledge of practical value to every one of you.

Membership in this association is a most valuable asset if one does not abuse it, does not become a passive member only and if he directs the attention of the medical profession to his membership therein, as it maintains most cordial relationship with its sister association, the powerful and useful American Medical Association.

Do not forget that the cooperation of the medical men is a very, very valuable aid to one's success in this calling. It can be acquired and retained by merit and straightforward dealings one with the other, as an honest man to an honest man, and you know that an honest man has been said to be "the noblest work of God."

You may deem these statements overdrawn, or only the theoretical deductions of an imaginative mind, but I can assure you that I know them to be undeniable facts based upon an experience of somewhat over a quarter century's time, and this verity is demonstrated more clearly every year to one who observes the rewards of society for services rendered by its servants—whether it be good or whether it be otherwise.

THE DOCTOR, THE DRUGGIST AND THE PATENT MEDICINE FROM THE PROPRIETARY STANDPOINT.*

FRANK J. CHENEY, PRESIDENT OF THE PROPRIETARY ASSOCIATION OF AMERICA.

The drug trade, like all Gaul of old, is divided into three parts. But it is in theory only that these parts are separated. In practice, they are so coordinated that it is often hard to say where the interests of any one of them begins or leaves off. While the trade is divided into retailers, wholesalers and manufacturers this division is, really, more a matter of theory than of fact.

The man who is classed as a "retailer" is, in almost every instance, also a manufacturer and sometimes a jobber. The man who is classed as a "jobber" is frequently a manufacturer and sometimes a retailer, and the one classed as a "manufacturer" is frequently a jobber, inasmuch as he often sells direct to the retailer.

The point I am trying to make is that the three theoretically separate branches have interests so closely interwoven that it is difficult to separate them, and classify them. Destroy any one branch and the others would have to undergo a complete reorganization, or be destroyed.

Eliminate the retailer, and where would the jobber be left. The manufacturer might go direct to the consumer, as some manufacturers are going. Eliminate the jobber, and the retailer would have to buy direct from the manufacturer, and he would find it hard, if not impossible, to secure many of the accommodations that he now enjoys from the jobber. Eliminate the proprietary manufacturer, and the jobber would immediately find more than 50 percent of his business gone by the board, and the retailer would in many cases have to go out of business, as not only would the proprietary manufacturer be eliminated but the retailer would be prevented from being a manufacturer, for there is no law that can say that Frank J. Cheney can't make medicine and that Azor Thurston can.

The organization of the drug trade may not be scientific. There may be duplications of efforts which, in theory, might be eliminated, but which in practice can not be. All three of the coordinated branches must exist; and for any of them to enjoy prosperity, all must be prosperous.

The sooner all branches of the trade realize this dependence and pull together, the better it will be. There are and always will be, matters of difference which will have to be discussed, and, in some instances, fought out, but the sooner we realize that the things which unite us are of vastly more importance than the things which separate us, the better off we will be.

We could well take a leaf from the doctor's book in this particular. The doctors have the closest organization for mutual aid and benefit of any class of people in America. They have the best organized labor union in the country. They have their fights, their differences and their troubles, but when there is a common enemy in sight they present a solid front that is amazing, and which, from the standpoint of organization methods, is a marvel.

*From the Report of the Committee on Trade Interests, presented to the O. S. P. A. annual meeting of 1912.

We may say to ourselves that this doctors' organization is the friend of one branch of the drug trade, but it isn't. It isn't the friend of any branch of the drug trade; it never was, and it never will be. Its whole tendency is to eliminate the entire drug trade, which it recognizes as a competitor, and the elimination of which it would regard as a blessing.

You retail druggists know better than I can tell you how many doctors are dispensing their own medicines, and how that number is growing every year. We see vast industries built up which cater to the doctor, by providing him with drugs for his dispensing, and you know that this dispensing, aside from its commercial aspect, is wrong in principle, and wrong in practice.

When a doctors' organization—be it local, state or national—tries to tell you how to conduct your business, you can depend upon it that its evidence is bad from your standpoint, no matter how good it may be from the standpoint of the advisor. It is the advice of a competitor, not a friend—a competitor who would like to see you reduced to the position of a dispenser of soda water, a purveyor of cigars and candies, and who is constantly forcing you into new lines of merchandising. You handle paints, which the hardware man formerly handled. You handle candies, which the candy man handled; you handle cigars, which the cigar man handled; you handle a hundred different articles which no other merchants have handled, and you have been forced to do it very largely by the doctor. You are obliged to handle merchandise, to become merchants, and every year you are becoming more of a merchant and less of a professional man.

This may not be pleasant, but it is true.

Do you think that, if you should drop all your side lines, your non-professional lines, so to speak, that your drug business would increase? Would the doctors stop dispensing? If you think so, try it. A strictly prescription drug store could not exist outside of the very large cities in this state.

While I am talking of competition, I want to go a little farther. From the standpoint of the manufacturer I know, and every manufacturer knows, that the retailer is, and must be, a competitor of the manufacturer. Every specialty you make and sell, every one of your preparations which you make or have made for yourself, is a competitive preparation. It is sold where some other preparation would have sold were it not for yours, and that makes it competitive.

I have no fault to find with competition, for I believe that competition is, in some respects, the life of trade; but I want to say that this competition from the retailer makes it very expensive for a proprietary medicine manufacturer to do business, much more expensive, than it is for a proprietary food manufacturer to do the same volume of business.

The reason for this is perfectly clear. The food manufacturer has a product which is distributed through the retail grocery stores and the retail grocer is a distributor and not a competitor. He does not make a food product, and there are few houses in the food business which put up competitive lines under the merchant's own name. However, these houses are increasing, and the food manufacturers will soon be up against the same proposition the drug manufacturer faces. This feature of the proprietary business has grown until we have reached the point where the manufacturer's advertising does not bring

him the returns it formerly did, and where, in order to maintain the same volume of business, he is obliged to spend more money.

He cannot rely as he did in former years upon the support of his distributor, for this distributor is now an active competitor, and has been educated by his organization, state and national, to be a competitor first, and a distributor afterward. In other words, to sell the advertised article only as a last resort. I do not say that all of you are doing this, but some of you are. I might not be bold enough to say it to you thus directly were it not for the fact that I have been a member of this Association for thirty years and feel that I have a fraternal interest in it.

What I have tried to do is to show you where the proprietary medicine manufacturer differs from the food manufacturer, and why his cost of doing business is so much higher. I can say to you very frankly that this increase, and steadily increasing cost of doing business, has driven some manufacturers to sell their goods largely through the general storekeeper, and has made many other manufacturers seriously consider this method of securing an output. The retail merchant is not a competitor, but a distributor.

Through the very laws of competition which enter into our business YOU become a manufacturer, while I cannot become a retailer and there you have the best of me in a way. But you cannot enjoy any of the benefits, or the privileges of being a manufacturer, without having some of the responsibilities, or without standing some of the chances that a manufacturer must stand.

We hear a great deal from time to time about "patent" medicines, and the alleged pernicious effects of them. These attacks are just as much against any remedy *you* may prepare yourself, or have prepared for you, as they are against any remedy that is prepared elsewhere, advertised nationally and distributed universally.

Just the minute you prepare any medicinal preparation in any greater quantity than you might prepare for a prescription, or sell that preparation without a prescription for it, you become a manufacturer, subject to every law, statutory or moral, which governs the largest manufacturer in the business. Not a law was ever enacted or proposed in Ohio to regulate the "patent" medicine business which didn't affect you just as much as it did me in the conduct of my business in this state. The fact that I have a larger business in my specialty than you have in any one of your preparations does not make me any more amenable to these attacks than it does you, if you make and sell a dozen bottles of cough remedy in a year.

Where there are any state laws regulating the manufacture and sale of proprietary medicines, you have to comply with these laws just the same as I do. Any law that would put me out of business, would put you out of business so far as your own preparations are concerned, and would also prevent your handling any preparation, and would leave you nothing more than a soda water and cigar store. Your drugs would rot before they were used; your prescription case would decay and your scales rust apart. You might sell a lot of candy, and cigars, and soda water, stationery, wall paper and paint, and penny post cards, stamps, soap, and an assortment of shelf groceries, but your drug store

would be a misnomer, and instead of being a professional man, you would be a merchant.

If you think I am wrong, when you go home, figure over your business. Estimate what portion of it consists of the sale of prescriptions, advertised proprietaries and your own preparations. Then figure on the elimination of the proprietaries and your own preparations, and see where you would land. Cut them out and where would your business be? Can you live on the prescriptions you fill? Can you live on your preparations plus your non-medical merchandise, or do you, to show a profit, have to sell proprietaries of your own or some one else's make. If you can, why have you not become a merchant and a manufacturer? You can't live on your prescription business, and it isn't right that anyone on earth should try to make you think you can.

The manufacturer has shouldered a tremendous burden. He has stepped into the front rank of the fight for your rights. He defends your business when he defends his own. When he opposes legislation conceived for the purpose of putting him out of business and for no other purpose at all, he also defends your right to do business as a manufacturer. Were it not for the activities of the manufacturer, I dare say the druggists of Ohio would have been out of business years ago.

The manufacturer does not profess to be unselfish in his endeavor. I don't profess to say that he would work for you were not your interests, his interests. But your interests and his are identical. In working for himself, he has to work for you, and in working for both he seldom asks you to bear any part of the burden. However, if an adverse law should be passed—in Ohio for instance—while you would be put out of business, the manufacturer, doing business in every state, would not be.

Sooner or later the pendulum would swing back, the people would demand the right to buy domestic remedies, and the laws would be repealed or amended. Then the manufacturer could do business in the state again, and even during the temporary suspension that would follow the enactment of restrictive legislation, he could continue to do business in the state if he wanted to, by advertising his product direct to the consumer, and mailing it to him from some other state, or by sending it to the consumer by express.

Now I want to repeat this point: We are all in business together, and what helps one helps the other; what hurts one, hurts both. We are interdependent and we can't get as far by pulling apart as we can by pulling together.

I am going to be frank and say to you that many manufacturers don't like to depend for their distribution on their competitors. That is why some manufacturers prefer to sell direct to the country merchant, and that is why the great wagon business has been built up. The case of the wagon houses is an example of a manufacturer being also a retailer, for that is really what he is, and these manufacturing retailers are doing more business today than you may think. I believe that one of the wagon concerns now in the field, which has been built up from nothing, in the last two decades, is doing more business, selling more medicines, than were ever sold by any one concern in the history of the business. And there are others almost as large. I dare say that half a dozen of the wagon

concerns are larger, and sell more goods, than any half dozen advertising proprietors you can name.

And this leads me to something else. We hear some talk that the proprietary medicine business is falling off, but it isn't. The people are taking more proprietary medicine today than they ever have. The sales are constantly increasing in spite of all the knocking that has been going on; public confidence in them as efficacious remedies, must be increasing, in spite of all that has been done to destroy that confidence.

The United States Census Report for 1910 showed a wonderful gain in the proprietary medicine output in the period between 1904 and 1909. This is the period in which the clique of political doctors, backed by powerful magazines, strained every point to put you, and me, out of business. Yet in that period, production of proprietary medicines increased 21 percent, reaching the total of $141,942,000 in 1909. During the same period, the amount of capital invested was increased 32 percent. These figures, especially the former, do not look as if the interests that have been trying to put us out of business have made much headway.

The same period—from 1904 to 1909—was marked by the passage of the National Pure Food & Drugs Act. This law, very frankly, was designed to drive patent medicines out of the market, and I can imagine the keen disappointment of these medico-politicians when it failed to do so.

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The manufacturer who advertises his products nationally, or at least widely, has borne the brunt of the battle that has been waged against domestic remedies, or any medicines which did not pay tribute to the doctors. In doing this he has been fighting his own battles and the battles of those other manufacturers who have wide or national wide distribution, but who have been content to let some of the rest of us carry the heavy burden. We have also been carrying your load as manufacturers, protecting your interest as well as our own, and making it possible by our efforts during the last decade for you to continue as manufacturers. In many instances you retailer-manufacturers have loyally helped us—many of you have come to our aid whenever you have been asked to do so. A few have not, but most of you have recognized that your interests are identical with ours and have been alive to the situation.

Many of you retailer-manufacturers may imagine that you are immune from punishment under the Federal Food and Drugs Act because the articles you manufacture do not enter generally into interstate commerce.

Down in New Jersey there was a retail druggist who believed the same thing. He manufactured a preparation which he sold over the counter and which had no sale except over the counter. His article was in absolute compliance with the laws of his state, but the law of his state was not uniform with the law of the federal government, so that while he was conducting a perfectly legal business in his state, the business became illegal the moment he sent a package of his preparation to another state.

One day he received an order for a dozen of his preparation from a jobbing

house. It was the first order he had ever received from any person outside of the state and it is the only such order he ever received. Very shortly after this shipment was made he was served with notice that his goods were misbranded and that he was liable to fine and imprisonment for violation of the Food and Drugs Act; and inasmuch as the label on his goods was not in compliance with the requirements of the National Law, he pleaded guilty and paid his fine.

Neither you nor I suppose that this one order was anything more than a trap set for him. And such a trap might be set for any retailer, at any time, if the goods he manufacturers are not packed in compliance with the National Law, though they might comply absolutely with the state law.

This one case, which is well authenticated, is an extreme one and is the only one of its kind that I now recall, but it shows the power of the government in case it wants to exercise that power unfairly, as I believe it did in this particular case, to secure conviction or pleas of guilty or "nolo contendere" from many small manufacturers; and such convictions or pleas constitute the bulk of the record which the Agricultural Department proudly parades as evidence of its activity.

In this article I have tried to point out that the manufacturers who have national, or very large, distributions, have fought your battles for you, have taken your part and have protected your interests.

Trade interests demand cooperation between coordinated branches of the trade, and I have shown you how one branch has worked for the interest of another. In any competitive business there is and always must be points of difference, but there are points in which interests are absolutely in common and when it comes to a question of the right to do business, all branches of the drug trade are, and must be, united, and must stand shoulder to shoulder in any fight waged against that right. We may differ on many propositions, but we cannot differ on this one—that we have a moral right to do business, that our business is necessary and essential to the happiness and well-being of the people, and that on this proposition "United we stand, divided we fall."

We may fight out our differences if we have to, but unless we—both retailer and manufacturer—stand united on the great principles of our right to do business as manufacturers of proprietary articles, and deny the right of any man or set of men to deprive us of that right, we will find ourselves in a position, sooner or later, where the point of difference will have been submerged in the wreck of our business.

A DAILY NEWSPAPER'S VIEW OF ADVERTISED MEDICINES.*

For several years The North American has been between two fires on account of its policy on medical advertising. All those who make or market proprietary remedies have quite generally dissented from our position and those handling worthless or questionable preparations have been bitter in their attacks.

*"The Doctors and Advertised Medicines." Reprinted from *Philadelphia North American.*

On the other hand, the physicians habitually express more resentment and discontent with the policy of The North American in this matter than with that of any other newspaper—this despite the fact that we are more than half in accord with the medical men in their professional antagonism to preparations advertised in newspapers.

The attitude of the physicians seems the more strange, since every one of them knows that no other newspaper has a policy so strict and a standard so high. That paper singled out for criticism is the one whose position approaches most nearly to that of the physicians themselves.

Our policy of excluding certain medical advertising began a dozen years ago. At first it demanded only the barring of what may be called obscene announcements. Next it put the ban upon matter palpably fraudulent. Then we excluded children's remedies containing large quantities of opiates. Next to go, naturally, were preparations for adult use which contained drugs or alcohol in habit-form in quantities. Further consideration dictated the exclusion of all medical advertising from the "classified" columns.

Most recent of advance steps was the decision to decline advertisements of remedies—including those we regard as having merit—wherein positive statements of "cure" were made. This restriction having proved ineffective against the ingenuity of the advertising phrase-makers, we finally excluded the word "cure" in any sense whatsoever.

Our position was persistently attacked by the patent medicine men. They said it was not only unique, but impossible. They challenged it first, upon the ground that we had no right to exclude their business, save upon the one ground of bad credit. A newspaper, they contended, was in advertising a "common carrier," with no authority over the statements of those who bought its space. They cited the principle "caveat emptor"—let the buyer protect himself. But with the new standards of business ethics and public service then gaining their first impetus, it was not very difficult for us to enforce our position against theirs.

They fell back then on the argument that we had no right to act as censors, to put a cloud upon their business, and to that extent damage their property rights.

This failing, they pleaded that all other newspapers accepted the business without question, and pointed to journals boasting high standards of editorial and news ethics which did not assume the attitude taken by The North American.

Finally, they insisted upon the efficacy of their preparations. Our answer was that no matter how meritorious a remedy might be, if it contained habit-forming quantities of drugs or alcohol, we would exclude it. So the controversy has continued. But it has resulted, as we have explained, in a steady raising of our standards. Nor are these standards yet fixed. Certainly our rules never will relax; any change must be toward making them more drastic.

The stand we have taken has not been dictated by "business reasons," for it has cost us not less than $250,000 in advertising revenue. It was made necessary as a matter of logic and of honor. We could not maintain an editorial policy which demanded opposition to frauds in politics and Wall street and elsewhere, while cheats were promoted in our advertising columns. It is five

years since a line of liquor advertising appeared in The North American, and, of course, remedies with alcohol had to go also.

Pressure from these interests in behalf of their products has been no more persistent than that from the medical profession for the excluding of all proprietary remedies. The doctors, who take this position seem sincerely to believe that because The North American has a higher standard than any other paper, its advertising does the greater harm by giving character to the preparations it accepts.

Nevertheless, we believe their contention that all these remedies are without merit is untrue. And in evidence we offer the fact that these same physicians have indorsed many of these same remedies and prescribed them for their own patients before the preparations appeared in newspaper advertising. Their attitude would indicate that the test of a preparation's efficacy lies in the ethics of its presentation rather than in its chemical formula. Later we shall cite some convincing examples.

Another form of the charge is that advertised remedies—even those which pass The North American's restrictions—are nostrums, and inventions of quacks. Yet our investigations show that a large majority of them are prescriptions by doctors in good standing. Many of them have been the discoveries originally of physicians of the highest class, and have been commercialized solely because their undoubted value has been recognized.

We shall remark right here that we believe that any remedy which stands the test of years must have merit. Doctors who explain the apparent efficacy of these preparations by citing the fact—which we quote from Dr. Woods Hutchinson—that four-fifths of the ailing persons would recover without treatment, should be wary lest the public apply the same test to the medical profession. They might quietly look over their office records and see if the proportion holds good among their own patients.

There is a third objection offered against proprietary remedies—that they tend to make confirmed medicine takers. In this argument we find a good deal of truth—as regards doctors as well as the advertised products. Every physician knows that some members of the profession prescribe in a manner to produce the same deleterious result.

Our own belief is that far too much medicine is taken, both from the patent medicine bottle and the Latin prescription; that it would be better for the race if the amount could be reduced to one-half or one-fourth. And whenever the profession is ready to cooperate we shall start a campaign against the taking of medicine, reserving, however, the right to use a prescription or a patent preparation when we are ill ourselves.

As to the charge of excessive prices—that a bottle selling for a dollar costs only a few cents to prepare—we think that on this ground the proprietary remedy can take care of itself, by comparing its price with a doctor's fee and the bill for a prescription of like cost in manufacture.

It is said, also, that the advertising of a remedy which has trifling medicinal value, or none at all, is a deception upon the sufferer. We have no desire to enter

a controversy here, but we know, and doctors are perfectly aware, that they all use on occasion the deliberate subterfuge of prescribing "blank" powders, "dough" pills and tinted water with an innocent medicinal flavor. Every physician knows the value of suggestion in treating ills due largely to imagination and nervous fear; and even a patented remedy which has the soothing effect of the doctor's kindly deception has an equal merit.

But it is argued, further, that the hit-or-miss taking of remedies, without a medical examination, is palpably wrong and may be dangerous. We do not quarrel with the warning, and we would almost invariably take the precaution of consulting a physician ourselves. But let it be remembered that medicine is by no means an exact science, either in theory or in practice.

The various schools differ radically in their views. One excludes substances which another uses persistently. So that the treatment gets back to the individual judgment of members of the same school; and, back of that, to the strength and purity of the drugs dispensed. As to the latter point, every one knows that, in small towns especially, doctors keep their own stock of medicines and will buy job lots of pills of different kinds, in which both strength and purity vary from twenty-five to fifty percent.

It would seem that experience and the making of large quantities would operate to make the proprietary products more accurate as to proportions than many of the preparations dispensed in the manner we have indicated.

So much for our defense to the charges of medical critics that our policy is inconsistent. Now, if consistency is to be measured, we would like to put a question to the doctors themselves.

Why is it that a remedy or preparation which the most ethical and conservative of them prescribe, so long as it is advertised only in medical journals, is immediately scouted and condemned by them when it appears among newspaper advertisements?

If we were discussing remedies containing dangerous drugs, the answer would be obvious. But we refer to simple, well-known combinations in which there is no possibility of harm.

We mean, for instance, an ointment now widely known and used with beneficial effects by tens of thousands of persons. A few years ago it was dispensed in prescriptions by thousands of physicians. But since it has been advertised in newspapers they have discovered that it is a useless sham.

Take another widely used preparation for poulticing. Doctors prescribed it for years; the medical journals applauded its healing properties. At last the makers sought to extend its use by newspaper advertising—and at once it was put under the ban of the profession.

Take a proprietary article which is recognized as the highest-grade preparation made for antiseptic and disinfectant purposes. Once prescribed freely by physicians, it is now condemned by them as being very nearly worthless.

There is a tonic and nerve food whose name is becoming a house-hold word through advertising. It seems but yesterday that it was recommended by specialists and indorsed by the professional journals. But now that it is urged direct

upon the public through magazines and newspapers, the doctors tell us that it is only a form of "cottage cheese," utterly without merit.

An an example of another class of remedies we shall use the name of one—listerine, named for the father of modern antiseptic surgery. This useful preparation is still ethically correct, according to the standards of the profession, for it is advertised only in medical journals. But even this does not save it. For it has become so widely known that people go to drug stores and buy it freely; and now we are told that it has no efficacy. Perhaps it has not; but, in that case, we have paid for a lot of bad medical advice in past years.

The Philadelphia Medical Journal, a publication whose views and whose editor we know to be progressive, has said that The North American's stand on medical advertising is the one feature of it which is not progressive.

Our policy in this regard rests upon a sound economic basis, which is the foundation of all progressivism. The highest function which a newspaper can perform through its advertising is to place within the easiest and cheapest reach of the consumer the product which he needs or desires.

A consumer who wants a cathartic, a poultice, a lotion or a disinfectant receives the best service from a newspaper which tells him where and how a sound preparation of the kind needed can be obtained. To make our meaning clearer we shall illustrate from a personal experience.

Having consulted our physician for a slight stomach disorder, we received a prescription and had it filled at a cost of fifty cents. The prescription, as it happened, was returned with the bottle of liquid. During a discussion the paper was shown to an interne in a Philadelphia hospital. He said the formula was very well known; was used by physicians everywhere. And the same thing, he added, was on the market in convenient tablet form, sold under a registered name.

We bought a package, at a cost of five cents. The same remedy, from a prescription, with the physician's fee, cost $2.50.

This, of course, is an extreme case, and we freely admit that in case the disorder returned we should be likely to seek a medical examination. But there are hundreds of thousands of persons who cannot afford the money or time needed to consult a doctor for trifling ills. A dose of good old Epsom salts will do no one harm; and one-fifth of 5 cents worth will do as much good as $2.50 worth of "magnesii sulphas."

As to the danger of indiscriminate medicine taking, let us remark that within forty-eight hours we have found that a popular practitioner in Philadelphia is prescribing for babies a preparation containing such a proportion of morphine as has been for years excluded from The North American's columns. Furthermore, this is a highly "ethical" remedy, for it is advertised nowhere save in the best medical journals.

We are quite sure that in the last analysis economics will govern the distribution of medical preparations, as regards those which have become standardized, and we believe that nothing the doctors may devise will prevent the operation of the law.

Both the patent medicine interests and the medical profession, by the way, are agitated over the proposal to establish a national department of health. We

favor the project, if the department be founded and conducted upon lines approximating to our advertising policy.

Proprietary remedy manufacturers are generally against the plan, and physicians generally are for it. Among its opponents are many who fear that it would drive their fraudulent and harmful preparations from the market. On the other hand, it is advocated by many physicians who would suppress every remedy publicly advertised, no matter how meritorious it may be.

Our hope and our belief are that when the department is established, it will destroy the worthless and harmful preparations, and protect those which are useful and honest.

The economic arguments for the ready distribution of such package goods through the medium of drug stores are so strong, that in this enlightened era congress would not dare to pass a law that would strike down a system so sound and so beneficial to the people at large.

"THE DOCTORS AND ADVERTISED MEDICINES."*

An interesting and instructive discussion of the "patent medicine" business recently appeared in the editorial pages of the *Philadelphia North American* under the above quoted title. The editorial well described the difficulties which have beset that paper because of its advertising policy. It says that argument and pressure alike have been brought to bear by the "patent medicine" men because it refuses certain kinds of medical advertising, and it explains on what grounds the rejection or acceptance of "patent medicine" advertising is based. On the other hand, the *North American* says that it has received almost as much criticism from the medical profession because it has not excluded all proprietary remedies. But, says the paper, "we believe their (the physicians') contention that all these remedies are without merit is untrue." Then it propounds this question to the medical profession:

> Why is it that a remedy or preparation which the most ethical and conservative of them prescribe, so long as it is advertised only in medical journals, is immediately scouted and condemned by them when it appears among newspaper advertisements?

The answer to this question is that the physician does not condemn a non-habit-forming and non-toxic preparation that is first introduced only to the medical profession via medical journals but later is advertised direct to the public in newspapers, if—and this is a big "if"—the preparation is advertised with the same degree of truthfulness in the daily press as it was advertised in medical journals. To particularize, the *North American* refers to an ointment that a few years ago was advertised only in medical journals but more recently has been widely advertised in the newspapers. The paper says that since the preparation has gone direct to the public the doctors "have discovered that it is a useless sham." The ointment referred to, doubtless, is Resinol. Our answer to the North American's criticism is a simple one. The objections to Resinol are not that it is advertised in newspapers but that it is advertised fraudulently in newspapers. For instance,

* Journ. A. M. A., Vol. LX, p. 671.

when the Resinol advertising was confined to medical journals no such statements were made as: "Resinol heals the worst cases of eczema." Yet this is exactly what has been claimed for this preparation in the newspapers. The outrageous falsity of such claims can be fully appreciated only by physicians who recognize and admit that many cases of eczema baffle the skill of men who have devoted a lifetime to its study.

The *North American* refers also to "a tonic and nerve food whose name is becoming a household word through advertising." And it says further:

> It seems but yesterday that it was recommended by specialists and endorsed by the professional journals. But now that it is urged direct on the public through magazines and newspapers, the doctors tell us that it is only a form of "cottage cheese" utterly without merit.

This statement contains both truth and error. It is true that Sanatogen—the product referred to, of course—has been "recommended" by physicians and "endorsed by medical journals. And we would say that the same sort of physicians who endorsed it before it was advertised to the public are still endorsing it; and the same sort of medical journals which praised it before it went into lay publications are still praising it—because they are carrying the advertisements themselves. No doctor who had given the matter thought would say that Sanatogen is utterly worthless. In fact, it would be absurd to say that cottage cheese is worthless. What we have said, both at the time that it was advertised only in medical journals and today, is that Sanatogen is advertised under claims that mislead and thereby defraud the public.

The *North American* holds, and we believe rightly so, that simple home remedies, proprietary or otherwise, are legitimate articles of trade. To illustrate its point, however, the newspaper falls into an error that is not uncommon. This can best be explained by quoting:

> Having consulted our physician for a slight stomach disorder, we received a prescription and had it filled at a cost of 50 cents. The prescription, as it happened, was returned with the bottle of liquid. During a discussion, the paper was shown to an interne in a Philadelphia hospital. He said the formula was very well known; was used by physicians everywhere. And the same thing, he added, was on the market in convenient tablet form, sold under a registered name. We bought a package at a cost of 5 cents. The same remedy from a prescription, with a physician's fee, cost $2.50.

The fallacy of this argument is evident to every physician and to the average layman. The editor who consulted a doctor for a "slight stomach disorder" may have had merely a passing indigestion or he may have had incipient cancer of the stomach or other serious affection. That he had the former, he learned from the physician. It was for this information, primarily, that he paid his $2, not for the prescription. Furthermore, even admitting that the prescription was, as the interne said, a well-known one, the interne did not know and could not know that "the same thing . . . was on the market in convenient tablet form, sold under a registered name." The only man who knows the composition of the "convenient tablet" is the manufacturer of the tablets. Evidently, then, the editorial writer could have had no means of knowing that he was getting "at a cost of five cents" the "same remedy" that was called for by the doctor's prescription. In other words, in the one case the editor obtained an expert opinion on the matter of vital interest to him—his physical condition—

and he obtained for the treatment of his condition a preparation whose composition was known. For these, he paid $2.50. In the other case, he would have obtained, for an unknown—to him—ailment, a box of tablets of unknown composition that might or might not have been of value. If the editor, in this instance, had had an incipient gastric cancer and decided to "treat it" in the cheapest way—by buying five cents worth of tablets—he would have saved $2.45 and possibly lost—his life.

While, then, we cannot accept all of the arguments put forth by the *North American,* we believe that the editorial as a whole is an excellent one. It represents the attitude of the intelligent layman toward the "patent medicine" evil. That the medical profession is responsible for at least a part of the evil we must regretfully admit. The prescribing of unknown preparations has been a practice so common to the profession as to nullify to a large extent all efforts that are being made toward ridding the public of the nostrum evil. We cannot too often assert, however, that the medical profession does not believe that there is no place in commerce for simple home remedies. Neither can the medical profession object to any proprietary preparation solely on the ground that it is advertised in the lay press. What it does object to is the fraudulence that is apparently inseparable from the exploitation of such preparations when sold to the public.

NOTES ON CHEMICAL TESTS OF THE UNITED STATES PHARMACOPŒIA.

CARL E. SMITH, SAN FRANCISCO, CAL.

(Concluded from page 76.)

RESORCINOL.—The description of its appearance should be changed to read "colorless or not more than slightly pinkish," as this substance acquires a color very readily on keeping. The melting point is an important criterion of purity and therefore should be given in the form of a requirement; the boiling point, on the other hand, is unnecessary for establishing purity or identity and would be impracticable for that purpose, for several reasons; moreover, the boiling point given is not sufficiently elastic for medicinal products. A concentrated solution (1 in 2) is seldom entirely colorless, as now required, but a 5 percent solution should appear colorless in a stratum of 1 cm. and should not be more than faintly acid to litmus paper. In the examination for an odor of phenol, care is required that a "gentle heat," defined by the U. S. P. to be 32° to 38° C., is not exceeded, otherwise an odor of phenol may be developed through partial decomposition.

SACCHARUM.—The characterization of sugar as "white" and its saturated water-solution as "colorless," applies only to small bulks. Sugar of commerce, to which no blue coloring matter has been added, and its concentrated solutions appear distinctly yellowish when viewed in large bulk. While account is taken by the U. S. P. of the possible presence of ultramarine and Prussian blue, the use of which for "facing" sugar is obsolete, a test is lacking for water-soluble

aniline colors, which are now more commonly used. In this respect it would probably be sufficient to require that only a yellowish, but no greenish or bluish color should be visible, when a cold-saturated water-solution is examined in a stratum of not less than 10 cm., also that in a stratum of 2 cm. the solution should appear colorless. As a test for glucose and invert-sugar ammoniacal silver nitrate is not generally regarded with favor, because of the risk of misleading results; most foreign pharmacopœias direct alkaline copper solution for their detection, e. g., the Swiss Ph. requires that 10 cc. of syrup (2:1), 1 cc. of caustic soda solution (sp. gr. 1.33 at 15°), and 1 cc. of a 10 percent water-solution of crystallized copper sulphate, if mixed at ordinary temperatures, should show within five minutes at most a greenish turbidity, but no separation of red cuprous oxide; the German Ph. requires that a mixture of 6 cc. of a water-solution of sugar (1+19) with 5 cc. of Fehling's solution, if heated until it boils up once, should not show a yellow or reddish deposit at once. In addition to the present tests of the U. S. P., tests for heavy metals, chorides, and sulphates should be required. A limit of non-combustible impurities, probably 0.05 percent, should also be set.

SACCHARUM LACTIS.—The official test for adulteration with sucrose was taken from the German Pharmacopœia, fourth ed., but the fact that "diluted alcohol" of that authority is much stronger than that of the U. S. P. was overlooked, hence the occasional reports that cane sugar has been found in milk sugar, because of greater solubility of the latter in the weaker alcohol. With the following changes the test gives reliable results: 2 gm. of milk sugar, in fine powder, are shaken frequently at 15° C., during half an hour, with 20 cc. of diluted alcohol (containing 69 to 70 per cent, by volume, of absolute alcohol) and 10 cc. of the filtered liquid are evaporated on a water-bath to dryness; the residue, when dried at 100°, should not exceed 0.03 gm. Other substances soluble in weak alcohol will, of course, also be shown by this test. H. Leffmann proposes a simpler test for sucrose, as follows: 0.5 gm. of milk sugar and 1 cc. each of oil of sesame and concentrated hydrochloric acid are shaken together; if sucrose be present, the characteristic crimson coloration will be formed within half an hour.

SALICINUM.—A melting range of 198° to 201° could be required as a test of purity, a test for heavy metals might be added, and a limit of 0.05 percent of ash allowed.

SANTONINUM.—The melting range of santonin of good quality is well within the limits of 170° and 172°, which should probably be made a requirement. The test for readily carbonizable impurities is best made with 0.1 gm. of santonin and 2 cc. of sulphuric acid. Ash should not exceed 0.05 percent.

SAPO.—As large quantities of soap are used in dried form for official preparations, it would seem that this should be considered in the establishment of a standard for soap, particularly, as no method of drying is specified in cases where dried soap is directed. Soap liniment, for example, is likely to vary considerably in soap content, unless the allowable limit of water in the granulated soap is specified; it should certainly not exceed 5 percent in either powdered or granular soap. According to published reports, olive oil soaps, especially in powdered form, have sometimes been rejected because of failure to stand the official test for "absence of animal fats" (more properly *"soap* made from animal fats"). This test is faulty in failing to take account of a variation in water content of

soaps and in failing to specify to what temperature the alcohol-solution should be cooled, both of these factors influencing the result seriously. Trials with several specimens of olive oil soap, moist and dried, show that the test should be modified somewhat as follows: A solution in 25 cc. of alcohol, U. S. P. strength, of a quantity of soap equivalent to 0.65 gm. of water-free soap should not gelatinize if cooled to 20° C. The limit of impurities insoluble in alcohol, but soluble in water, may be reduced to about 1 percent, and the limit of substances insoluble in both alcohol and water to 0.2 percent. The official test for "limit of alkalinity" is unsatisfactory and should be replaced with a more stringent test for sodium hydroxide, which is not found in soap of the better grade. Such a test is conveniently combined with the preceding one, by dissolving about 10 gm. of soap in 100 cc. of alcohol, washing insoluble matter with hot alcohol, etc.; the filtrate should not be reddened by phenolphthalein.

SAPO MOLLIS.—The official limit test for "free alkali" is inconclusive because it fails to distinguish between KOH and K_2CO_3. The latter is comparatively unobjectionable in moderate quantity and is taken care of in the succeeding test for limits of alcohol-insoluble matter, but some uses of soft soap in dermatology apparently require presence of a slight amount of uncombined KOH, which should, however, be limited to about 0.25 percent. It is no great hardship to make a soap containing not less than 0.1 and not more than 0.25 percent of KOH, as determined by titration of a filtered alcohol-solution with N/10 acid, with phenolphthalein as indicator. Uniformity of composition could be further promoted by requiring either a minimum percentage of fat acids or by limiting the loss in weight as determined by the official method given under *Sapo;* the loss should not exceed 50 percent.

SODII ACETAS.—Doubtless because of an erroneous impression that solutions of the pure salt in water are not reddened by phenolphthalein, the requirement is made that a water-solution of the salt "should not affect phenolphthalein." The fact that chemically pure sodium acetate is alkaline to phenolphthalein in water-solution was pointed out by the writer to the revision committee before the eighth revision, but was either overlooked or disbelieved. Those who still doubt this can easily prove this for themselves by crystallizing the salt from a water-solution containing a slight excess of acetic acid and thoroughly washing the crystals with neutral distilled water. It will be found that this purified salt, when dissolved in water, will give a color with phenolphthalein. For comments on the assay see under *Potasii Acetas.*

SODII ARSENAS.—The most satisfactory method of assay is probably that of Williamson, as given in Sutton's *Volumetric Analysis,* 10th ed. (1911), consisting in the reaction of arsenic and hydriodic acids in a strongly acid mixture, resulting in the formation of arsenous acid and free iodine, the latter being titrated with thiosulphate. The method has been used with satisfactory results in this laboratory.

SODII BENZOAS.—Before weighing for an assay, the salt should be dried to a constant weight at about 120° C., which may require several hours, and a carefully made product should not lose more than 5 percent in weight by this treatment. The assay method is unpractical, because the charred mass, being in hard and compact pieces, is not extracted thoroughly by boiling water or even by boil-

ing weak acids, unless it is first reduced to a fine powder. A more satisfactory method is that of direct determination of the benzoic acid, by shaking it out with chloroform from an acid mixture and weighing it after evaporation of the solvent. To insure complete extraction it is necessary that the amount of water in the mixture be very small in comparison to the bulk of chloroform, that the shaking be vigorous and prolonged, and that not less than three successive portions of chloroform be used. Evaporation of the chloroform should be without the aid of heat and the residual benzoic acid should be dried in a desiccator before weighing.

SODII BICARBONAS.—While the salt of commerce will readily test 99 percent by the official method of titration, the amount actually present is usually somewhat less. With more exact methods of determination replacing the present one, a minimum requirement of 98 percent would be feasible. The requirement that the salt must produce a "perfectly clear" solution in water is impracticable and conflicts with the general provisions in "Introductory Notices" of the U. S. P., under "Solubility Tests," wherein traces of insoluble impurities are permitted. Results of the test for normal carbonate vary with the manner in which the details are carried out. If the solution is cooled much below 15°, stringency of the test will be decreased and the manner of adding the acid may cause considerable variation in the amount of carbon dioxide given off. In the interest of uniformity it is recommended that the temperature of the solution be adjusted to 15°, then poured, all at once, upon the 0.2 cc. of normal hydrochloric acid and the phenolphthalein, contained in a test tube of 18 to 20 mm. diameter. A titration of sodium bicarbonate with methyl orange as indicator, as officially directed, of course includes also the normal carbonate present. For determination of both, the following method of G. Lunge includes several features often ignored, but necessary for accurate work: About 5 gm. of the salt are dissolved in not more than 100 cc. of distilled water (boiled and cooled), at a temperature not exceeding 20° C., without agitation other than gentle stirring with a glass rod. About 10 gm. of pure sodium chloride are then dissolved in this liquid, which is then cooled to almost 0° C., phenolphthalein is added and normal hydrochloric acid, with the tip of the burette below the surface of the liquid, until the color is just discharged. Each cc. (O=16) corresponds to 0.1061 gm. of Na_2CO_3. An aliquot portion of this titrated solution is then titrated with methyl orange as indicator, in the usual manner, and the number of cc. of normal acid used in the first titration subtracted from the number required in the second. The remaining number of cc. represent the $NaHCO_3$ in the sample, each cc (O=16) corresponding to 0.08401 gm. Another fairly accurate and expeditious method consists in heating a known weight of the salt, dried over sulphuric acid before weighing, at a temperature somewhat below red heat, until the weight is constant and calculating the $NaHCO_3$ from the loss of water and carbon dioxide.

SODII BORAS.—Comments under *Sodii Bicarbonas* regarding "perfectly clear" solutions apply also to this salt. For an assay, the well known method of titrating a water-solution of the salt with hydrochloric acid, with methyl orange as indicator, is satisfactory, each cc. of normal acid (O=16) corresponding to 0.101 gm. of $Na_2B_4O_7$. It is not advisable to calculate the results as $Na_2B_4O_7.10H_2O$, as the salt, particularly when powdered, is often more or less effloresced, but the

sum of the percentages of $Na_2B_4O_7$ and of H_2O (determined by loss of weight at red heat) should not be less than 99 and the percentage of H_2O should not be more than 49 percent in crystals and not less than 42 percent in the powdered salt.

SODII BROMIDUM.—The standard might be raised to a minimum of 98.5 percent. The salt should be powdered and dried at 100° to 110° to a constant weight before weighing it for the titration with silver and the allowable water-content should be limited to 4 or 5 percent. No limit of moisture is now specified in the U. S. P., but this is desirable because it is possible to make a crystallized salt containing theoretically 2 molecules, or 25.9 percent, of water. Comments under *Potassii Bromidum* apply also to this salt.

SODII CHLORIDUM.—Results of assays by the official methods are seriously affected by presence of calcium and magnesium chlorides, which are among the common impurities in ordinary salt; the more of these is present, the higher will be the apparent NaCl content. Unless they are present only in traces, quantitative determination of them is required, as also of sulphate, another common impurity, in order to ascertain the actual percentage of sodium chloride in this salt.

SODII CITRAS.—There is no good reason for an official allowance of 3 percent of impurities other than water in this salt; a standard of 99 percent is not too high. A test for tartaric acid should be added. Comments under *Potassii Acetas* concerning the assay method apply also to this salt. Because of variability in crystal-water contents, the percentage of *anhydrous* salt found by the assay should be added to the percentage of water, determined by drying at 150° C. The sum should not be less than 99 and the percentage of water should not be more than 3 percent above the theoretical amount in crystals nor more than 5 percent below the theoretical amount in the granular or powdered salt.

SODII HYPOPHOSPHIS.—The requirement that the salt should not be alkaline to phenolphthalein conflicts with the limit test for alkalies and should be omitted. For comments on assay methods see under *Potassii Hypophosphis.*

SODII IODIDUM.—It should be allowed to contain not more than 5 percent of crystal-water, which is determined by drying at 100° to 110° C. Comments under *Potassii Iodidum* are applicable also to this salt.

SODII NITRIS.—The standard could be raised to 95 percent.

SODII PHENOLSULPHONAS.—For an assay the following method of Smith and Frey, based on the determination of phenol-p-sulphonic acid, may be used. From 0.24 to 0.25 gm. of the salt is dissolved in 50 cc. of water in a glass-stoppered flask (250 cc. volumetric flask answers best), 50 cc. of N/10 bromine solution are added, then 5 cc. of hydrochloric acid, and the stopper quickly inserted. The mixture is then allowed to stand, with occasional shaking, at a temperature of 20° to 25° C. for not less than 10 nor more than 15 minutes. The stopper is then raised just enough to introduce, without loss of bromine vapors, a solution of 2 gm. of potassium iodide in 5 cc. of water. The mixture is thoroughly shaken in the stoppered flask and the liberated iodine titrated with N/10 thiosulphate solution. The number of cc. required are subtracted from the number of cc. of N/10 bromine solution taken. Each cc. of the remainder corresponds to 0.005804 gm. of $NaC_6H_5O_4S.2H_2O$ (O=16). If the liquid remains clear or nearly so throughout the determination, the sample may be considered sufficiently

free from interfering impurities for the results to be dependable. The salt of the market sometimes contains phenol and possibly other compounds that form insoluble bromine derivatives under the conditions of the determination and the presence of these affects the accuracy of the method in proportion to their quantity, but a carefully purified product should be practically free from them. This question may be settled by a preliminary test as follows: Addition of bromine water to 5 cc. of a cold water-solution of the salt (1 in 100), until the liquid is permanently yellow, should remain clear for two minutes after the last addition.

SODII PHOSPHAS.—Besides the impurities for which official tests are given, this salt usually contains considerable quantities of sodium sulphate. Chlorides are usually present only in traces. The various impurities must be considered in a choice of methods of assay, because of the possibility of their affecting the accuracy of results. In calculating the percentage of sodium phosphate from a determination of phosphoric acid, the plan proposed under *Sodii Boras* should be followed whenever the salt tested does not contain the full amount of crystal-water and as particularly the granular salt loses water very readily, the U. S. P. should provide for a limited shortage of crystal-water.

SODII PHOSPHAS EXISCCATUS.—It should be allowed to contain not more than 4 or 5 percent of absorbed water.

SODII PYROPHOSPHAS.—The test with molybdate solution for distinction from orthophosphate is misleadiing, since orthophosphate is formed from pyrophosphate through contact with the nitric acid in the reagent. Difference in the color of precipitates with silver nitrate is more reliable for differentiation and also a sufficiently delicate test to exclude excessive amounts of orthophosphate.

SODII SALICYLAS.—A substance that is permitted to have a "faint pink tinge" can scarcely be expected to produce entirely colorless solutions in all concentrations; however, a freshly-made 5 percent solution of the salt should appear colorless in a stratum of 2 cm. The purest products of the market are distinctly alkaline to litmus, though not to phenolphthalein, and the requirement that the salt "should slightly redden blue litmus paper" excludes all specimens that contain less than about 1 percent of sodium acid salicylate, $NaC_7H_5O_3.C_7H_6O_4$. If for some purposes a salt having an acid reaction is preferable, it is certain that for others the purer normal salt, which has a slightly alkaline reaction, is to be preferred. It would, therefore, seem advisable that the Pharmacopoeia allow also a neutral and a slightly alkaline reaction. A test based on the decolorization of iodine is preferable to the official test for sulphites, as sodium salicylate often contains unobjectionable traces of sulphates, the presence of which makes the test inapplicable in its present form. Comments on methods for the assay of Sodium Benzoate apply also to this salt.

SODII SULPHAS.—To determine the percentage of actual sodium sulphate, it is usually most convenient to determine the sodium chloride, which is likely to be the chief impurity, and the water, then calculate the remainder as anhydrous sodium sulphate.

SPARTEINAE SULPHAS.—The reasons for the widely varying figures given by different authorities as the melting point of this salt require investigation. These vary from 136° to 152°. Variations from 132° to 150° have been noted in this

laboratory, all specimens meanwhile conforming in other respects to the U. S. P. standard. The odor of free sparteine is considered by some persons to resemble that of aniline and as for that reason the latter might be used as an adulterant or substitute, a test for it is directed by several pharmacopœias, somewhat as follows: A mixture of about 0.1 gm. of sparteine sulphate, 0.5 cc. of chloroform, and 0.5 cc. of alcoholic potash solution (about half-normal strength) should develop no isonitrile odor when heated.

SPIRITUS AETHERIS NITROSI.—The U. S. P. gives a standard of strength only for the freshly made spirit and it would seem that it might still be considered to conform to the U. S. P. standard after having lost the greater part of its ethyl nitrite on keeping. The British and Netherlands Pharmacopœias allow a deterioration from the original strength of not more than 30 and 20 percent, respectively. A similar provision should be made by the U. S. P., with the requirement that the spirit should not be dispensed if it contains less than a stated amount of ethyl nitrite, perhaps 3.5 percent.

SPIRITUS AMMONIAE.—Instead of merely stating the specific gravity to be "about 0.808 at 25° C.," it would be better to definitely require it to be not more than 0.805, as a higher specific gravity indicates presence of an excessive amount of water. The permanganate test, as given under Ammonia Water, requires slight changes to make it applicable to the spirit, as the alcohol in the mixture decolorizes permanganates; the liquid, which is warm from the reaction of ammonia and sulphuric acid, should be cooled to about 20° C. before addition of the permanganate and this should be increased to 0.2 cc. For the titration the spirit is preferably weighed in a flask containing water, to minimize the loss of ammonia through volatilization.

SPIRITUS GLYCERYLIS NITRATIS.—Upper as well as lower limits of nitroglycerin contents should be specified for such a potent substance, since an exact 1 percent is unattainable. It might be advisable to permit a variation of 1 to 1.05 percent, or 0.97 to 1.02 percent. The second reference in the U. S. P. to the specific gravity contradicts the first and should be omitted. For an assay the method of the Danish Pharmacopœia seems well adapted; it is as follows: To about 10 gm. of the spirit add in a flask of suitable size 2 cc. of caustic soda solution (1 in 10). After a few hours warm the liquid and finally evaporate the alcohol on a water-bath. Dissolve the residue in 10 cc. of water, add 2 cc. of hydrogen peroxide solution (3%) and warm the liquid at first gently, then heat it to boiling. Transfer it to a 500 cc. boiling flask, using 10 to 15 cc. of water for rinsing the first flask. Add 12 cc. of a mixture of 1 volume of sulphuric acid and 2 volumes of water, then 5 gm. of reduced iron. Insert in the neck of the flask a test-tube filled with cold water and warm the flask at such a rate that the liquid will boil in 4 minutes, as shown by the dripping of water from the test-tube. Boil the mixture about 1 minute, then add 150 cc. of water and 25 cc. of caustic soda solution (1 in 2). Connect the flask quickly with a condenser and distill the ammonia into a receiver containing 25 cc. of N/10 hydrochloric acid. Titrate the excess of acid and calculate the percentage of nitroglycerin from the amount of ammonia found.

STRONTII BROMIDUM.—It is not "very deliquescent" unless it contains abnormally large quantities of calcium halides, nor is it "occasionally efflorescent,"

either when pure or when it contains the usual impurities within U. S. P. limits. The effloresced appearance of some crystalline products of the market is generally caused by drying at elevated temperatures. A salt of U. S. P. standard of purity, which may contain small amounts of calcium compounds, is slightly deliquescent if it does, but is permanent in the air when free from them. Titration of the hydrated salt with silver nitrate is not always sufficient to determine the percentage of $Sr\ Br_2.6H_2O$ in it. Only when the salt is practically free from all impurities except strontium chloride and contains just the theoretical amount of water will the official method give fairly accurate results. It would be quite feasible, however, for the U. S. P. to demand almost total absence of calcium and then only the variation in water content need be considered. To overcome this it is only necessary to dry the salt to a constant weight at 180° and titrate a weighed quantity of the anhydrous salt. The ratio of strontium bromide and chloride can then be readily calculated from the amount of silver nitrate solution required for precipitation.

STRONTII IODIDUM.—Because of variability of water contents and possible presence of calcium salts, titration with silver nitrate is not a very suitable assay method. One of the several well-known methods for the direct determination of iodine in presence of chlorine would be preferable, combined with a determination of strontium if much calcium is present.

STRONTII SALICYLAS.—Concerning the requirement that "its aqueous solution should be colorless," comments under *Sodii Salicylas* apply also to this salt. An assay based on the weight of sulphate formed is not reliable, as it includes such impurities as calcium salts and strontium or alkali chlorides, which may be present and for which no tests are given. A more useful quantitative determination would be that of the salicylic acid, by a method such as is discussed in these notes under *Sodii Benzoas.*

STROPHANTHINUM.—Strophanthin-Kombé of commerce is amorphous, not crystallized as this substance is described in the U. S. P. The melting point should be omitted, as official strophanthin is a mixture of variable composition.

STRYCHNIA.—The melting points of strychnine and its official salts are variable because of partial decomposition by the required heat; determination of them is needless for identification and valueless for ascertaining purity. As traces of harmless impurities other than brucine, sometimes present in strychnine and its official salts, may produce an orange color with concentrated nitric acid, it is preferable to modify the test for brucine as has been done by some other pharmacopœias, somewhat as follows: 1 cc. of a mixture of equal volumes of nitric acid and water, mixed with about 0.1 gm. of strychnine or its official salts, may produce a yellow, but no red or reddish color. The delicacy of the test is not appreciably diminished by the change.

SULPHONETHYLMETHANUM.—The melting point should be replaced by a range of 75° to 77°, which limits should be definitely required as a test of purity. In the permanganate test 20 cc. of the filtrate from the preceding test should be taken and 0.05 cc. of N/10 potassium permanganate (measured with a 1 cc. pipette). As the test now stands, it is too vague to be of use.

SULPHONMETHANUM.—It should be required to melt between 125° and 127° and the permanganate test should be made as described in the preceding.

SULPHUR LOTUM.—This, and sublimed sulphur, from which it is made, are mixtures of varieties soluble and insoluble in carbon disulphide and the statement "readily soluble" should be changed to "partially soluble." Determination of the percentage of actual sulphur, by oxidation to sulphuric acid and weighing as barium sulphate, is not generally required to ascertain if a given specimen conforms to the minimum standard of 99.5 per cent. An indirect determination, by deduction of the amount of non-volatile matter found, is generally sufficient and likely to be more accurate with the pharmaceutical grades of sulphur.

SULPHUR PRAECIPTITATUM.—The requirement as to non-volatile matter is too stringent. Other pharmacopœias are more lenient; the German, e. g., allows 0.5 percent. See also under *Sulphur Lotum.*

SULPHUR SUBLIMATUM.—See comments under *Sulphur Lotum.*

SYRUPS ACIDI HYDRIODICI.—In the assay, the syrup should be diluted with considerably more water than is directed, before admixture with silver nitrate, to prevent reaction of the latter with the hypophosphorous acid present. Insertion of a test for excessive amounts of other halogens would be desirable.

SYRUPUS FERRI IODIDI.—The comments under the preceding apply also to this preparation.

TEREBENUM.—It appears to be still an open question what the composition should be of the mixture of hydrocarbons known as terebene. This is illustrated by the boiling ranges given by different authorities: 160° to 170° (U. S. P.); 156° to 180°, not over 15 percent below 165° (Brit. Pharmacopœia; Brit. Phar. Codex); 156° to 160° (Hager's Phar. Praxis); 155° to 160° (Schmidt's Phar. Chemie); 170° to 185° (Power and Kleber, in 1894). Dipentene, which is generally considered the chief constituent, boils at 175° to 176° (Schmidt), or at 181° to 182° (Wallach; Brass), and it is therefore not likely that the U. S. P. product contains very much of it. If dipentene is the most important constituent, therapeutically, which appears not to have been demonstrated so far, then the boiling range proposed by Power and Kleber should certainly be specified in preference to that of the U. S. P. The subject requires further investigation, both pharmacological and chemical. A change in the boiling interval would require also a change in specific gravity limits. The official directions for determining resinous substances do not lead to reliable results, as exposure to air during evaporation causes formation of resins and greatly increases the amount of non-volatile residue. By vacuum evaporation at about 100° residues of 0.2 to 0.3 percent were usually obtained from samples that yielded 5 to 10 times as much when the U. S. P. directions were followed. In absence of a suitable vacuum apparatus atmospheric oxidation can be prevented to a large extent by transferring the residue remaining in the flask used for the boiling point determination to an evaporating dish, with the help of ether, evaporating rapidly or a water-bath, then drying at 100°. From 0.5 to 0.7 percent of resin were obtained in this manner.

TERPINI HYDRAS.—The official statement that it is permanent in the air does not agree with practical experience, which shows that it is somewhat efflorescent and often does not contain fully 1 molecule of crystal-water. For that reason a determination of the melting point, as a test for organic impurities, is preferably made after removal of the water by drying the finely powdered substance over

sulphuric acid to a constant weight, as the melting point of the hydrate varies with the degree of hydration. Anhydrous terpin should melt between 102° and 105°.

THYMOL.—The specific gravity should be stated as being "about 1.030." In place of the requirement of an impossibility, that a crystal leave *no* residue on volatilization, it would be better to require that a quantity of not less than 1 gm. should leave not more than 0.5 mg. of residue. An alcohol-solution (1 in 20) should be required to be neutral to litmus paper wetted with water.

THYMOLIS IODIDUM.—Although chemically pure dithymol diiodide would contain 46.2 percent of iodine, the products of few manufacturers meet the U. S. P. specification requiring a content of 45 percent, owing to the costly methods of manufacture necessary to attain that standard. Admixture with chlorine derivatives of thymol usually brings the iodine contents down to from 42 to 43 percent. A minimum standard of 42 percent would, therefore, seem to be required in the dried product. An allowance of not more than 1 percent of moisture should also be made, as this substance may appear dry and yet contain a large amount of moisture. G. M. Beringer has pointed out that thymol iodide of the market is a mixture of several organic iodine compounds differing in solubility. This fact need cause no surprise, as it has been known for many years (Patent of Farbenfabriken verm. Bayer & Co., 1889) that thymol iodide is converted into a white iodothymol (in which iodine is considered to be linked directly to carbon) through several agencies, such as treatment with caustic alkalies, thiosulphates, etc. It seems probable that appreciable quantities of iodothymol are formed by the usual procedures of preparing thymol iodide and it is not unlikely that further conversion is induced by the action of light and heat during washing, drying, and afterwards, as temperature and light are known to influence the color of the product to a marked degree. The drug trade demands chiefly a product of light buff color and it may be found on investigation that this contains a much larger proportion of iodothymol than the dark, reddish-brown product. Thymol iodide should not yield more than 0.5 percent of ash; the present allowance of 3 percent is entirely too liberal. Differences in methods for the determination of the iodine have given rise to controversies concerning iodine contents. The writer is indebted to Mr. Henrik Knudsen for calling his attention to Groeger's method for the determination of iodine in presence of chlorine, the following adaptation of which has been found in this laboratory to be reliable: Mix thoroughly in a mortar 0.2 to 0.25 gm. of dried thymol iodide with about 3 gm. of dried sodium carbonate and transfer the mixture to a crucible. Remove traces of the mixture adhering to the mortar with about 1 gm. more of the sodium carbonate and cover with it the contents of the crucible. Heat the mixture moderately, gradually increasing to, but not exceeding, dull redness, in the covered crucible, until the mass is completely carbonized. When sufficiently cooled, extract the residue with boiling water and wash it on a filter with boiling water until the washings cease to react with silver nitrate. Heat the combined liquids, which should measure about 150 cc., on a bath of boiling water and add a solution of potassium permanganate (1 in 20) in small portions, until the hot liquid is permanently pink. Add just enough alcohol to remove the pink tint, cool the liquid to room temperature, and dilute it to 200 cc. Mix

well and filter through a dry filter, 9 to 10 cm. in diameter, and reject the first 50 cc. of filtrate (to avoid any error through adsorption). To 100 cc. of the subsequent clear filtrate add about 1 gm. of potassium iodide and an excess of diluted sulphuric acid, then titrate the liberated iodine with N/10 sodium thiosulphate. Each cc. (O=16) corresponds to 0.002115 gm. of iodine.

VANILLIN.—The results of G. A. Menge, who found 5 commercial samples to have an average melting interval of 81.9° to 82.5° (corr.), with only slight variations, indicate that the figures of the U. S. P., 80° to 81°, which are also given by most other authorities, are too low and should probably be replaced with a required interval of 81° to 83°. Adulteration with such substances as acetanilid, terpin hydrate, coumarin, etc., which is occasionally reported, is detected most conveniently by deviations in the melting point.

VERATRINA.—The melting point should either be omitted or given as a roughly approximate figure, since it must necessarily vary considerably with a mixture such as this. Presence of many foreign alkaloids may be detected, according to various authorities, by addition of platinic chloride to an alcohol-solution of veratrine (1 in 20); no precipitate or turbidity should be produced.

ZINCI ACETAS.—Stringent official tests for chlorides and sulphates require the salt to be practically chemically pure in order to meet the U. S. P. requirements, which raises its cost unnecessarily. If the dilution of the solution for these tests be extended to 1 in 200, the requirement can be met more readily. A salt of this degree of purity, unless it is found to contain alkali or alkali earth compounds, for which no tests are given, scarcely requires quantitative determinations to prove conformity to the specified minimum standard. Precipitation as sulphide and weighing as such is doubtless the most accurate of the usual methods.

ZINCI CARBONAS PRAECIPITATUS.—To prepare solutions for making tests of purity hydrochloric acid is to be preferred to sulphuric acid and enough should be taken to dissolve the salt completely. When the official directions are followed, some impurities may be left on the filter and escape detection; e. g., lead, if present, will be filtered out almost entirely, as sulphate. The weight obtained as a result of the official assay includes, besides the allowed traces of sodium carbonate, iron compounds, and other heavy metals, also other fixed impurities of which no account is taken in the tests of purity, such as basic zinc sulphate, presence of which cannot be entirely avoided, and sodium sulphate, which may be present through incomplete washing of the salt. To determine the zinc combined as basic carbonate, the official method for the assay of Zinc Oxide would be more suitable, with deduction of the acid required to neutralize any sodium carbonate in the sample, but the minimum standard would have to be lowered to something like 70 percent of Zn O. Possible presence of alkali earth carbonates would also have to be considered in the use of this method of determination.

ZINCI CHLORIDUM.—It is not feasible to determine the water contents of this salt by ordinary methods, as the heat required to render it anhydrous also expels appreciable quantities of hydrochloric acid and probably also volatilizes some zinc chloride. It is, therefore, impracticable to base the standard of purity on the anhydrous salt, as is done in the U. S. P. It would be better to base it upon the salt in its original condition, but in view of its strongly hygroscopic nature the minimum requirement should probably not be placed higher than 90 percent of

$ZnCl_2$. Suitable tests to exclude excessive amounts of alkalies and alkaline earths should then be added. The melting point varies much in accordance with variation in water contents, which makes the official melting point inapplicable. A water-solution of the salt (1 in 20) cannot be expected to be "clear or at most only very slightly opalescent," as the temperature required to remove most of the water causes formation of enough basic salt to produce a rather turbid solution. The test for sulphate is so stringent as to increase the cost of the salt unnecessarily.

ZINCI OXIDUM.—The official test for chlorides is rather too stringent; traces are unobjectionable and should be allowed.

ZINCI PHENOLSULPHONAS.—In view of the impurities this salt may contain, precipitation as sulphide is probably the most reliable of the ordinary methods for a zinc determination. The medicinal value should doubtless be based chiefly on the zinc content and only secondarily on the phenolsulphonic acid content. The latter may be determined by the method recommended under *Sodii Phenolsulphonas,* the quantity of sample being increased in proportion to the greater molecular weight.

ZINCI STEARAS.—A residue not exceeding 0.5 percent should be allowed in the test for alkalies and alkaline earths, the present requirements being impracticable. The present limits specified for zinc contents are also impracticable and should be replaced by a range of 13 to 15 percent of ZnO. In presence of alkalies and alkaline earths the official assay method gives too high results and the sulphide method, after elimination of the fat acid, would be preferable. To the tests for impurities one should be added to limit contamination with lead and other heavy metals. The stearic acid, separated from the salt by heating with weak hydrochloric acid and thoroughly washed with hot water, then kept in contact with ice for 2 hours or at 10° C. for 24 hours, should meet the melting point requirements of the U. S. P. for stearic acid.

ZINCI SULPHAS.—The small amount of zinc chloride, which the U. S. P. allows to be present in this salt, may impart an acid reaction to alcohol, being soluble in it. Hence the official test for free acids is not reliable. A better and also simpler test consists in slightly coloring a water-solution of the salt (1 in 20) with methyl orange. No acidity should thus be shown.

ZINCI VALERAS.—Loss of valeric acid during unavoidable exposure to the air renders the salt partially insoluble in water and it may then no longer be acid to litmus, as officially specified. On account of the instability of this salt, the requirement of a minimum of 99 percent of normal salt can be met only by freshly made products, unless they are kept in air-tight containers. It would be unfair to apply the rigid pharmacopoeial specifications to specimens that have been on the pharmacist's shelves for some time.

The author deems it advisable to state more clearly than was done at the beginning of this series of notes, that he alone is responsible for the views and opinions expressed in the several installments thereof. While these views and opinions were formed largely as a result of the facilities extended by the laboratories of the Powers-Weightman-Rosengarten Company, of Philadelphia, Pa., they do not necessarily coincide with those of the officers of said company.

Papers Presented to Local Branches

A HOME FOR THE A. PH. A.*

H. V. ARNY, PH. G. PH. D., NEW YORK, N. Y.

In the November number of the Journal of the American Pharmaceutical Association (Vol. 1, p. 1189), Editor Beal, with his usual skill crystallized what has been during the past fifteen years scarcely more than an intangible hope; the desire for a building which will be for American Pharmacy, what the Chemists Club Building in our own New York is to American Chemistry; what the Hofmann Haus in Berlin is to German Chemistry; what the headquarters of the Pharmaceutical Society in Bloomsbury Square are to the English pharmacist.

Such should be the proposed home of the American Pharmaceutical Association and such a home will be erected, if we Amercan pharmacists once realize what such a centre would mean to each of us.

One of the greatest detriments to present-day pharmaceutical progress is the lack of pride of craft on the part of the pharmacists themselves. In this respect we modern pharmacists are far behind our predecessors of one or two centuries ago, when membership in the Apothecaries Guild was considered a precious possession of those engaged in the art of mixing drugs. In this respect we are still farther behind the modern physician who is not merely proud of his profession, but who is willing to express his pride in the tangible form of handsome buildings as organization headquarters. There is scarcely a city of any size in this country which does not possess a building owned and supported by the physicians of that place, containing a well-equipped library and suitable rooms for meetings; this, of course, in addition to the local medical colleges.

The desirability of the two types of buildings becomes apparent without giving the matter much thought. The college building proclaims to the public that the active representatives of a profession have enough faith in their calling to recommend it to the coming generation of students; the association building is a public affirmation of the fact that the members of the profession have sufficient enthusiasm over their calling to be willing to contribute funds for the betterment of their craft and indirectly for the uplift of themselves.

Under the present conditions in pharmacy, the college—at least in large cities—stands for both purposes. It is an institution representing the sacrifices of those active in the calling for the sake of those who are to follow; it also is, or should be the rallying point for the pharmaceutical activities of the community which it serves and this is assuredly the case with the institution at which we are now gathered and with our sister college in Kings county. The very building points out to the passer-by that pharmacy is a power since its followers are will-

*Read before the New York Branch, March 10, 1913.

ing to transmute some of the profits of their calling into the stones of a building; that pharmacy has a purpose, since the members of the craft stand ready to make sacrifices of time in aid of its institutions.

For over a decade, thinkers in our calling have been asking themselves whether the time was not ripe for a monument to American Pharmacy, other than the school of pharmacy and it is not strange that holders of this idea have been largely those deeply interested in the college, laymen as well as teachers, for it is almost a dictum that the ones who preach the doctrine "charity begins at home" are less apt to help the home folks than those who are also willing to work for the world field.

One of the first thoughts in this direction was expressed at the Baltimore meeting of the American Pharmaceutical Association of 1898 (Proceedings 46, 225) when Leo Eliel in his report as chairman of the A. Ph. A. Pharmacopœial Committee spoke of the need of a research laboratory for pharmacopœial work and again in 1903 when Professor Kremers in his report as chairman of the Committee on Historical Pharmacy (Proceedings 51, 541) urged the establishment of a national pharmaceutical museum.

During 1901, Professor Kraemer inaugurated in the American Journal of Pharmacy a discussion of a memorial to Professor Procter, and several of those contributing to the discussion urged a Procter memorial laboratory. And now Dr. Beal gives the subject a new and practical turn by suggesting that all these several ideas be condensed into an A. Ph. A. home.

In viewing the situation, the first question suggesting itself is the scope of the building and fortunately we have three models, which can be studied before the A. Ph. A. Home is consummated. The first is the headquarters of the Pharmaceutical Society of Great Britain, which I am not competent to discuss, since it has never been my privilege to visit it. This however, as I understand, is based on the college idea with the organization idea more or less in the background. The second is the Chemists Club of our own city, where the social idea is preponderant, but which possesses library and meeting place facilities that would be difficult to better. The third is the Hofmann Haus of Berlin (A. J. P., 83, 1901, 349) where the organization idea was the first thought; where the primal aim was the providing of offices and permanent meeting place for the German Chemical Society. This building also possesses splendid library and laboratory facilities for research workers, but gives little attention to the social side. This third idea, should, I think, be the aim of the A. Ph. A. home. It should provide room for the following:

1st. *For officers of the Association and of its Journal.* This is a foregone conclusion.

2nd. *For a permanent exhibit of historic pharmacy.* Those of us who saw the magnificent exhibit gotten up during the semi-centennial meeting of 1902, know the interest that exhibit created not only among the drug trade, but also among the general public; while the exhibit of ancient pharmacy at the Germanic Museum at Nuremberg is one of the most popular parts of that world-famed collection of medieval relics.

3rd. *For a pharmaceutical library.* One is almost tempted to express the hope

that the famous Lloyd library and the A. Ph. A. home will some day be under the same roof.

4th. *For research laboratories.* None of the organizations cited above—the Pharmaceutical Society of Great Britain, the Chemists Club nor the German Chemical Society—have more legitimate need for research laboratories than has the American Pharmaceutical Association, if the research done therein is on the lines suggested by Dr. Beal; problems dealing with the revision of the National Formulary, the Druggists' Recipe Book, with the work of the Committee on Unofficial Standards and possibly with the revision of the Pharmacopœia. For even though the latter is independent of the A. Ph. A., much of the work of revision is done by active A. Ph. A. members and that part could well be performed in the suggested research laboratories.

Two features of the buildings proposed as models, which need not be emphasized in the A. Ph. A. home, are

1st. *Meeting rooms.* As the A. Ph. A. meets at different places, the national body has but little need for a gathering place in the A. Ph. A. home, but it might be possible that the local druggists would provide funds for that purpose in order that their organizations would have a meeting place.

2nd. *The social side* need not be considered, although it might prove a good investment to ultimately have some furnished rooms to rent those members of the Association going to headquarters for business or for research work.

Such are the outlines of what an A. Ph. A. home might mean to American pharmacy, and forthwith I think I hear a score of objections and difficulties. 1st. *Where are we going to get the money?* That is the first draw back to every great enterprise and it is to me scarcely short of miraculous how a meritorious object does eventually get the cash. The same query has been asked every time a new college building is broached; the same qustion was put, I am sure, when the Chemists Club building was suggested, but somehow the buildings get erected, if energetic men take hold of the work. One phase of the money getting seems essential and that is that the building must take the character of a memorial to our great departed pharmacists, and notably to William Procter. Let us therefore hope that some arrangement be made whereby the money so far collected for the Procter Memorial may eventually develop into a greater memorial in the form of an A. Ph. A. home.

2nd. *Where will the building be put up?* The geographical question is a serious one in this great country of ours, and is one which must be met in a broad spirit. Of course, we of New York, wish the building erected here, or at least on the Eastern seaboard, but the great West is yet to be heard from. But wherever it may be located, let us all—North, East, South and West—join to make the enterprise worthy of American pharmacy.

3rd. *Who will use the research laboratory?* As pointed out by Dr. Beal, a great need in the preparation of the National Formulary and of the Recipe Book is an impartial trying out of every formula proposed, or every change suggested. A prominent and forceful member of a revision committee can almost invariably persuade a majority of the committee to put his pet recipe into the work in question and as a result defective formulae sometimes slip in. The Association

owes it to itself to prevent this, using some of the profits accruing from the book in question for employing a competent laboratory worker to try out the accepted recipe before it is definitely sponsored by the Association, and such a worker will need a laboratory. Then too, such a laboratory would prove a boon to the many earnest workers at smaller institutions which lack proper research and library facilities. This hindrance to their talents means a distinct loss to pharmaceutical progress and to such men the facilities of the proposed laboratory should be extended, of course, under proper restrictions.

And so let us all give the project of the A. Ph. A. our careful attention and after the plan has been worked out in sufficient detail to show its feasibility let us, each and every one, do our best to bring the idea into realization.

THE PROPOSED A. PH. A. HOME.*

H. M. WHELPLEY, PH. G., M. D., ST. LOUIS.

It is not necessary to study political economy nor social science in order to learn that the citizen who has a home is a more desirable part of the body politic than the one who is adrift in the world without fixed abode. The man who owns his home is better prepared for good citizenship than he who rents from a landlord.

I hold that in respect to usefulness the same conditions apply to organizations of the class to which belongs the A. Ph. A.

It is true that the society has lived and prospered and served the calling of pharmacy well for sixty-one years without occupying a real home, much less owning one. This is true because the membership has been such that difficulties and lack of facilities did not discourage the officers and committees in doing the best they could under the circumstances. The good work of the six decades has been accomplished in spite of the fact that the A. Ph. A. did not provide a parental roof for headquarters. What might have been done if a home had been established in 1852 and maintained up to date is a matter of legitimate and perhaps profitable speculation. But it is my purpose to concentrate your attention on the demands of the present and the possibilities of the future.

Pharmacy has passed through many changes since the A. Ph. A. was organized to "improve the quality of medicines in the market and encourage proper relations between pharmacists, physicians and the public; to regulate apprenticeship, suppress empiricism, create and maintain standards of authority in education, theory and practice of pharmacy and last but not least to afford the greatest protection to the public."

With conditions as they are today in pharmacy and medicine, the A. Ph. A. with its avowed purpose has new opportunities and must meet new demands and accept new duties.

The A. Ph. A. is the only organization in the world where any reputable person sufficiently interested in the welfare of pharmacy to ask admission and

*Read at the February 28 meeting of the St. Louis Branch of the A. Ph. A.

willing to subscribe to and observe the constitution and by-laws is welcome. Can you imagine a more cosmopolitan pharmaceutical body. A place where we find working for the common good, the apprentice, clerk, proprietor, jobber, manufacturer, teacher, author, editor and consultant. As first pointed out by Secretary Beal, it is the "great clearing house in American pharmacy."

An A. Ph. A. home would first of all emphasize the permanency and make more apparent the stability of the organization.

The historical instinct is asserting itself among the American people and with a fireproof home we can collect and preserve the important material which pharmacists should contribute to the history of their country.

The organizers of the A. Ph. A. little realized the possibilities of the National Formulary. With a well equipped laboratory at headquarters, the work of revising this authority can be greatly facilitated. The work on the A. Ph. A. Recipe Book will also be furthered if an experimental laboratory is at hand for the final proving of the formulas.

With the continued growth of the A. Ph. A. would come additional facilities for the development of activities within the scope of the A. Ph. A. but not possible as long as we are confined to itinerant headquarters.

Lastly, the spirit of patriotism which suggests honoring the memory of such men as Procter, Parrish, Maisch, Rice, Curtman, Ebert, Hallberg and Cook, spurs us on to work for the future of pharmacy and the even greater development of the A. Ph. A. What more fitting memorial can be erected to the memory of those who lived and labored for pharmacy, than a permanent home for the headquarters of the A. Ph. A., its official periodical and other publications?

The association has special funds which will grow more rapidly under home influence and maternal guidance. The A. Ph. A. holds about fifty thousand dollars in permanent, trust and current funds and this has been collected in spite of the fact that "a rolling stone gathereth no moss."

The fund necessary to build the home should represent contributions from every interest in legitimate pharmacy.

The question of a location need not now be discussed. Let us do our part towards providing the ways and means for the home.

TINCTURE OF IODINE.*

L. F. KEBLER, CHIEF DRUG DIVISION, BUREAU OF CHEMISTRY, U. S. DEPARTMENT OF AGRICULTURE.

This commodity has probably been examined more frequently than any other simple drug offered for sale by the retail trade, and I know of no medicinal agent which has more frequently been found wanting. Observations and investigations have frequently shown that when iodine was dissolved in simple ethyl alcohol there was a great tendency for the iodine to be changed into hydriodic acid and other compounds, thus actually lowering the free iodine content, and the

* Read before the City of Washington Branch, February 12, 1913.

diminution increased with the age of the preparation. Experiments conducted to obviate this difficulty indicated that the presence of potassium iodide tended to inhibit the usual combination of the iodine and thus increase the stability of the tincture. The method outlined for the manufacture of this commodity by the last (8th) revision of the U. S. Pharmacopoeia prescribes the use of a certain amount of potassium iodide. The shortcomings of the tinctures available on the market have, however, not been materially reduced. Almost every State Board which has taken up this question has found that a large number of the samples are deficient in iodine content. This shortcoming cannot now be so fully ascribed to deterioration, neither can it be ascribed to difficulties in manufacture, because the process of manufacture is extremely simple.

During the past few years a considerable number of samples of tincture of iodine have been examined in the Bureau of Chemistry. The samples shipped into interstate commerce were found to comply closely with the pharmacopœial requirements. All of them contain the requisite amount of potassium iodide. A goodly number of samples were collected in the District of Columbia and analyzed with the following results:

Iodine. Grams per 100 cc.	% Variation[1]	Potassium Iodide Grams per 100 cc.	% Variation[1]	Alcohol. % Volume	Declaration
1.97	71.5	1.3	74	86	Correct
3.42	50	None	100	93.5	Not declared
4.40	36	5.38	7.5	85	Not declared
5.04	27	None	100	94.4	Not declared
5.08	26	3.03	40	95	Small type
5.09	26	Trace	100	91	Correct
5.36	22	2.1	58	95	Correct
5.52	19.5	5.30	6	95	Not declared
5.57	19.5	5.84	17	93.5	Not declared
5.81	15	5.03	None	93.5	Correct
5.88	14.5	None	100	95	Not declared
5.89	14.5	None	100	92.8	Not declared
6.06	12.5	6.82	36	94.5	Correct
6.09	11	1.02	80	93.5	Not declared
6.11	10	4.93	1	95	Correct
6.18	10	5.37	7	91	Correct
6.18	10	4.45	11	93	Correct
6.24	9	4.32	13.5	88	Correct
6.29	8	2.79	46	91	Not declared
6.29	8	4.61	8	91	Small type
6.32	8	2.58	48.5	91	Not declared
6.34	7.5	None	100	93.6	Small type
6.36	7.5	3.84	23	92.5	Not declared
6.48	5.5	4.92	2	95	Correct
6.48	5.5	3.81	24	88.5	Correct
6.49	5.5	5.34	7	95	Small type
6.73	.5	6.52	30	95	Correct
6.75	.5	2.42	51.5	96	Correct
6.76	.5	3.82	24	85.50	Small type
6.78	....	2.46	51	90.5	Correct
6.80	....	3.95	21	91	Not declared
6.80	....	3.49	30	86.5	Not declared
6.84	....	5.56	11	93	Incorrect
6.85	.5	5.1	2	92.72	Correct
6.90	....	0.97	80.5	95	Small type
6.97	.5	None	100	91.5	Small type
7.00	2.0	5.79	16	91	Not declared
7.03	2.5	5.52	10	91	Small type
7.04	2.5	5.00	None	93.5	Correct
7.18	4.5	4.58	8.5	89.5	Correct
7.21	4.5	5.17	3	90.5	Correct
7.21	4.5	5.67	13.5	88.50	Not declared
7.24	5.5	5.14	3	90	Not declared
7.58	10.5	5.12	2	94.5	Correct
7.95	15.6	4.50	10	86	Not declared
8.07	17.5	4.38	12.5	90	Small type
8.11	18	3.86	23	91.50	Not declared
8.11	18	6.00	20	95	Correct
8.37	21.9	5.45	9	89	Not declared
9.26	35	5.23	4.5	89.5	Not declared

[1]N. B.—The percent variation in above analyses is calculated to the nearest half percent.

The pharmacopœial tincture contains about 6.86 grams of free iodine and 5 grams of potassium iodide in 100cc. The range of variation (1.97 to 9.26 grams per 100 cc.) is certainly remarkable. What real valid excuse can be offered for either of the above extremes? Furthermore, is there any substantial reason for some of the other variations? The permissible variation from the standard must be met sooner or later. Shall it be stringent or reasonable? If reasonable shall the variation be 5 percent or 10 percent or 20 percent? Considering that the adjective "about" qualifies the amount of free iodine that should be present in the tincture, about 60 percent exceed a 5 percent variation, 40 percent a 10 percent variation and 18 percent a 20 percent variation. I do not believe many manufacturers will contend for or advise a 20 percent variation in that it would not only savor of carelessness but actually encourage it. Is then a 10 percent variation either way from the standard, reasonable, fair and just to the manufacturer, the consumer, the physician, etc., or is it desirable to be more stringent?

Suggestions are invited either in the columns of this Journal or otherwise. The free iodine is the essential factor of this tincture, but the potassium iodide and percentage of alcohol must also be considered. The conditions noted above relative to the variability of the free iodine also holds for potassium iodide. The variation ranges from no potassium iodide to 6.82 grams per 100 cc. Discussion in this connection is also invited.

THE NEED FOR RESTRICTING THE INTERESTATE TRAFFIC IN HABIT FORMING DRUGS.*

M. I. WILBERT.

It is generally recognized that few if any trades or professions are more generally protected, more variously restricted or more thoroughly hampered by laws and regulations than is that portion of the drug business that is usually defined as the practice of pharmacy. On the other hand there are few if any occupations that offer greater possibilities for immunity and profit to the individual who is willing to ignore the letter, or even the spirit of existing laws and regulations than does this same retail branch of the drug business.

To illustrate it is but necessary to call attention to the profitable business frequently done by the drug store saloon keeper in prohibition territory and the comparative immunity that is assured the dope distributing druggist or nostrum peddler who is willing to restrict his business to interstate traffic in these drugs.

Even the intrastate traffic in drugs of this type appears to be safe and profitable because of the usual lack of funds and energy to enforce existing legislation within the State.

Recognizing the existing shortcomings it is not surprising that law abiding physicians and pharmacists generally are desirous of providing efficient means for restricting the sale and use of narcotic or habit forming drugs and are par

* Read before the City of Washington Branch, March 12, 1913.

ticularly anxious to refute, in a definite and positive way, the repeatedly made assertion that medicine and pharmacy are at fault in fostering the illegitimate and unnecessary spread of the habitual use of narcotic drugs.

A review of the history of existing legislation amply evidences the fact that physicians and pharmacists have ever evidenced an appreciation of the need for restricting the sale and use of harmful and possibly habit forming drugs and practically all of our present day laws had their origin with one or the other branch of the professions interested in medicine.

As an illustration of what has already been accomplished it may be interesting to note that of the 55 political divisions of the United States, as enumerated in Public Health Bulletin No. 56, no less than 48 have laws designed to restrict the sale and use of cocaine. Twenty-nine of these laws include a reference to alpha and beta eucaine.

Twenty political divisions have laws designed to prohibit or restrict the opening of opium dens and 30 political divisions restrict the sale of opium. Of the latter laws, 7 include all alkaloids of opium, 27 mention morphine, 5 mention codeine, 16 mention heroin and 16 include derivatives of these substances.

It may also be interesting to note that 16 political divisions restrict the sale of hydrated chloral and that in 9 of the divisions unauthorized possession of one or the other of the enumerated drugs is unlawful or evidence of unlawful intent.

With all of these many and varied laws, or possibly because of them, the abuse and habitual use of the alkaloids or derivatives of coca and opium have increased tremendously during the past two decades and varied suggestions have been made in recent years to restrict and regulate the interstate traffic in drugs of this type so as to facilitate or at least permit of the enforcement of local or state laws in accordance with the spirit that prompted their inclusion in the statute books.

Physicians and pharmacists generally have recognized the need for interstate regulation and have endorsed many if not all of the measures that have been proposed from time to time. Without recalling any number of these endorsements two of the more recent may be quoted for illustration of the spirit that prompted them.

"The National Drug Trade Conference in session in Washington, D. C., this fifteenth day of January, 1913, herewith submits by unanimous resolution that this Conference is heartily in favor of Federal Legislation of such a nature as to bring under control the importation and the interstate traffic in so-called habit-forming drugs in such a manner as to prevent their illegitimate use, without placing unnecessary burdens upon the manufacturer, jobber, retailer, physician, or veterinarian."

The following resolution was adopted by the Ninth Annual Conference on Medical Legislation, held in Chicago, February 25, 1913:

"Whereas, several bills intended to regulate interstate commerce in habit forming narcotic drugs have been introduced in Congress;

"*Resolved,* that the Council on Health and Public Instruction and the members of the Annual Conference on Medical Legislation of the American Medical Association hereby express their approval of all legislative efforts which may be neces-

sary to restrict the employment of habit forming drugs to proper and legitimate uses."

Up to the present time the effectual opposition to the enactment of a law designed to regulate the interstate traffic in narcotic drugs has emanated from wholesale dealers and manufacturers who fear the imposition of irksome and totally unnecessary restrictions in the way of keeping records and the practical difficulties of determining whether or no an order from an unknown or even from a known source is authentic.

Another source of opposition is due to the objections of law abiding physicians and pharmacists who feel that some of the proposed restrictions are in direct conflict with the provisions of local laws and who are not willing knowingly to assume responsibilities that cannot be lived up to.

The former of these two objections has been effectually eliminated by the proposition endorsed by the National Drug Trade Conference at its meeting in the City of Washington on January 15, 1913, to restrict sales at wholesale to orders on an official blank provided by the Commissioner of Internal Revenue. This proposition has been included in H. R. 28,277, and can readily be made to serve all reasonable requirements for keeping records and at the same time place the responsibility for unlawful purchase on the buyer or person who presents the order, rather than putting all of the burden of proof on the seller.

The second, and in many ways the more important of the objections to previously proposed measures can be effectually overcome by making such a law clearly applicable and restricting it to the interstate traffic in habit forming drugs leaving to the States themselves the regulation of sales to physicians, dentists and veterinarians other than those desirous of buying in larger quantities or from dealers outside of their State.

A bill taking cognizance of these evidently reasonable objections could readily be prepared and, if introduced in Congress, would not be objected to by any of the many law abiding physicians, dentists, veterinarians or pharmacists who are willing to confine themselves to the practice of their professions in accordance with the provisions of local laws to which they are subject. A law restricting interstate traffic in habit forming drugs, to sales by licensed dealers to other licensed dealers could be made to provide for a complete record of all purchases and sales, with a minimum of expense and trouble to all concerned while a law that does not effectually provide for the recording of all interstate transfers would fail to give the information necessary to enforce otherwise efficient State and local laws that are now on the Statute books.

Reports of A. Ph. A. Committees

REPORT OF COMMITTEE ON UNOFFICIAL STANDARDS.

The following portion of the report of the Committee on Unofficial Standards relates to certain crude drugs and chemicals suggested for inclusion in the next revision of the National Formulary, and by order of the Council is published in the JOURNAL in order to afford opportunity for discussion before the standards proposed are finally adopted.

Manufacturers, importers, analysts, and others interested in any of the proposed standards, are requested to send their criticisms and comments to the chairman of the committee, Geo. M. Beringer, 501 Federal St., Camden, N. J.

APPROVED MONOGRAPHS SUBMITTED AS STANDARDS FOR UNOFFICIAL DRUGS AND CHEMICAL PRODUCTS.

(Continued from page 375)

QUEBRACHO.

1. The dried bark of *Aspidosperma Quebracho-blanco* Schlechtendal *(Fam. Apocynaceae)*.

2. Occurring in nearly flat pieces often reaching 3 cm. in thickness, the outer surface deeply fissured and yellowish-gray or brownish-gray, the inner distinctly striated and yellowish-white; fracture showing two sharply defined strata of about equal thickness, with numerous whitish dots and tangential striations occurring in both; outer stratum reddish-brown and with a rather coarsely granular fracture, the inner yellowish-white and of a short splintery fracture; odor none, taste very bitter and slightly aromatic.

3. Upon incineration, it should yield not more than 10 percent of ash.

4. If .2 gm. of the inner part of the bark be moistened with 1 cc. of alcohol then boiled with 15 cc. distilled water and filtered, the liquid should become greenish yellow on the addition of 3 drops of ferric chloride T. S., but not dark brown (Quebracho Colorado).

QUINIDINAE-

Quinidine.

1. An alkaloid obtained from the bark of various species of Cinchona *(Fam. Rubiaceae)* and isomeric with quinine [$C_{20}H_{24}O_2N_2$=324.21]. Quinidine should be kept in well stoppered amber colored bottles.

2. Bitter, white crystals or amorphous powder according to the method of manufacture. When crystallized from alcohol it forms nonoclinic prisms containing one molecule of alcohol which is partly lost on exposure to air and entirely at 100° C. When precipitated by ammonia water from an aqueous solution of a salt, an amorphous precipitate is obtained which when washed and dried forms an anhydrous powder.

3. Quinidine melts at about 168° C. and on ignition leaves no residue.

4. Quinidine crystallized from alcoholic solution is soluble at 25° C. in 26 parts of alcohol, 46 parts of ether, 2.5 parts of chloroform, very slightly in petroleum benzin and almost insoluble in water.

6. Its alcoholic solution is dextrogyrate and its aqueous solution is alkaline to litmus paper.

7. A solution of quinidine in water (1:1000) acidulated with sulphuric acid shows a strong blue flourescence.

8. If to 10 cc. of a solution of quinidine in water (1:1000) containing sufficient sulphuric acid to produce complete solution,

a few drops of bromine T. S. be added and then ammonia water in slight excess the liquid acquires an emerald-green color.

9. A solution of about 0.1 gm. of quinidine in 5 cc. of cold sulphuric acid should not be darker than pale yellow.

10. If 0.5 gm. of quinidine be dissolved in 10 cc. of water at 60° C. with just enough sulphuric acid to form a solution neutral to litmus paper and a neutral solution of 0.5 gm. of potassium iodide in 5 cc. of water at 60° C. be added, the mixture slightly agitated, cooled to 15° C. and set aside for one hour with occasional stirring a white precipitate is formed (difference from quinine). If then the precipitate be filtered off, the addition of 2 drops of ammonia water to the filtrate should cause not more than a slight turbidity, but no precipitate (absence of other cinchona bases). Care must be taken to have the liquid after the addition of the potassium iodide solution perfectly neutral; if slightly acid, very dilute ammonia water is to be added drop by drop with constant stirring until neutral to litmus paper.

QUININE GLYCEROPHOSPHATE.

(Quinine Glycerinophosphate.)

1. A glycerophosphate of the alkaloid quinine [$(C_{20}H_{24}O_2N_2)_2PO_4H_2(C_3H_7O_2) + 4H_2O = 892.56$]. It should be kept in well-stoppered amber colored bottles.

2. Fine white crystalline needles or powder, odorless and having a very bitter taste.

3. Soluble in 850 parts of water, 60 parts of alcohol, very soluble in boiling alcohol, very slightly soluble in chloroform or ether, soluble in 20 parts of a mixture of alcohol 1 volume, chloroform 2 volumes.

4. Quinine glycerophosphate slowly loses part of its water of crystallization at room temperature and becomes anhydrous at 100° C. and melts at 146-147° C. Upon incinerating 0.2 gm. of the salt it should leave no weighable residue.

5. This salt yields a clear solution with diluted sulphuric acid. The aqueous solution is not fluorescent, but becomes so upon the addition of a few drops of diluted sulphuric acid.

6. If to 10 cc. of a saturated aqueous solution of the salt there be added a few drops of bromine T. S., and then 1 cc. of ammonia water, the liquid should acquire an emerald-green color (Thalleioquin reaction).

7. It must comply with the test given under Quinine Sulphate in the U. S. P. VIII for the absence of excessive amounts of other cinchona alkaloids.

8. A saturated aqueous solution of the salt, acidulated with acetic acid, should not produce a precipitate on the addition of ammonium oxalate T. S. (calcium salts).

9. A saturated aqueous solution should not become more than faintly turbid upon the addition of a few drops of barium chloride T. S. (limit of sulphates).

10. A saturated aqueous solution, acidulated with nitric acid, should not be rendered more than faintly turbid on the addition of silver nitrate T. S. (limit of chlorides).

11. If to a saturated aqueous solution, a slight excess of ammonia water be added, and the precipitate be filtered off, the clear filtrate should not show more than a slight turbidity with magnesia mixture T. S. (limit of phosphates).

QUININAE HYPOPHOSPHIS.

Quinine Hypophosphite.

1. The hypophosphite of the alkaloid quinine [$C_{20}H_{24}O_2N_2HPH_2O_2 + 2H_2O = 426.27$]. It should be kept in well-stoppered amber colored bottles.

2. Fine, white silky glistening needles or prisms, odorless and having a very bitter taste.

3. Soluble in 35 parts of water, in 10 parts of alcohol, in 40 parts of chloroform and almost insoluble in ether.

4. Heated to 100° C. it becomes anhydrous. It melts at about 181° C. and upon incinerating 0.2 gm. it should leave no weighable residue.

5. If to an aqueous solution, acidulated with a few drops of nitric acid, there be added silver nitrate T. S. a brown precipitate is formed which by standing becomes black.

6. It must comply with the test given under Quinine Sulphate in the U. S. P. VIII for the absence of excessive amounts of other cinchona alkaloids.

7. A saturated neutral aqueous solution should not be rendered more than faintly turbid on the addition of silver nitrate T. S. (limit of chlorides and phosphates).

8. A saturated aqueous solution should

not be rendered more than faintly turbid on the addition of barium chloride T. S. (limit of sulphates).

QUININAE TANNAS.

Quinine Tannate.

1. Quinine Tannate is the tannate of the alkaloid quinine, containing from 30 to 35 percent of quinine.

2. Quinine Tannate may be prepared as follows: Ten gm. of quinine sulphate are dissolved in a mixture of 15 cc. of diluted sulphuric acid and 150 cc. of water. Twelve gm. of tannic acid are dissolved in 75 cc. water and the filtered solution poured slowly and with constant stirring into the solution of quinine sulphate. Three gm. of tannic acid are then dissolved in 50 cc. of water and 3 gm. of sodium bicarbonate dissolved in 50 cc. of water. These solutions are filtered, the filtrate mixed, and the mixture poured slowly and with constant stirring into the quinine-tannin mixture prepared as above described. The precipitated quinine tannate is allowed to stand for 24 hours. It is then poured onto a muslin filter, washed with 100 cc. of water and expressed with moderate pressure. The expressed mass is then transferred to a porcelain dish, 50 cc. of water added and the mixture heated on the water bath until the quinine tannate melts to a resin-like mass. The supernatant liquid is poured off, the mass cooled, dried in the air and pulverized.

3. Quinine tannate is an amorphous, pale lemon-yellow to yellowish-white, odorless powder, very slightly soluble in water, ether and chloroform, but somewhat soluble in alcohol. Its aqueous and alcoholic solutions are colored bluish-black by ferric chloride test solution. On heating it is decomposed and melts to a purplish resin-like substance.

4. If 1 gm. of quinine tannate be shaken with a mixture of 50 cc. of water and 1 cc. of nitric acid and the mixture filtered a portion of the filtrate should not become more than slightly opalescent after the addition of 1 cc. of silver nitrate T. S., nor should there be any darkening after the addition of 1 cc. of hydrogen sulphide T. S., nor should a portion be rendered turbid immediately by barium chloride T. S.

5. If from 0.5 gm. to 1 gm. of quinine tannate be mixed with 25 cc. of water and an excess of ammonia water, the mixture extracted with 3 successive portions of 20 cc. each of chloroform, the total solvent washed with water and then evaporated, the weight of residue obtained after drying at 100° C. (212° F.) should correspond to from 30 to 35 percent of anhydrous quinine. If this residue be dissolved in 30 cc. of water by the aid of a few drops of diluted hydrochloric acid and 1 cc. of the solution be mixed with 20 cc. of water and 2 or 3 drops of bromine T. S., the mixture should assume a green coloration on the addition of ammonia water.

6. If 0.2 gm. of quinine tannate be ignited no weighable residue should be obtained.

7. If quinine tannate be dried at 100° C. (212° F.) to constant weight the loss should not correspond to more than 10 percent of the weight of substance taken.

8. If 2 gm. of quinine tannate be shaken with 3 successive portions of 25 cc. each of anhydrous ether, the solvent poured through a filter, the filter washed with 10 cc. of the solvent, the several filtrates united, evaporated and the residue dried to constant weight at 100° C. (212° F.) the weight of the residue should not exceed 0.005 gm. (limit of *uncombined alkaloid*).

SODII GLYCEROPHOSPHAS.

Sodium Glycerophosphate (Sodium Glycerinophosphate).

1. A semi-solid, colorless or faintly yellowish, transparent mass, having a saline taste, odorless, containing 75 to 80 percent of sodium glycerophosphate ($C_3H_7O_6PO_3Na_2 + 3H_2O = 270.24$) as determined by the method given below.

2. Very soluble in water. Nearly insoluble in alcohol.

3. When strongly heated, the salt yields inflammable vapors and at a red heat is converted into sodium pyrophosphate, which imparts an intense yellow color to a non-luminous flame.

4. The aqueous solution (1 in 20) is slightly alkaline to litmus paper, but should not be reddened by phenolphthalein.

5. On heating about 0.1 gm. of the salt with about 0.5 gm. of potassium bisulphate, pungent vapors of acrolein will be evolved.

6. A mixture of an aqueous solution of the salt (1 in 20) with an equal volume of ammonium molybdate T. S., kept at 20° to 25° C. should remain clear for 5 minutes

(limit of phosphates); if the mixture be heated on a water bath, a yellow precipitate will be formed.

7. If about 1 gm. of the salt be thoroughly triturated in a mortar with 20 cc. of alcohol, the liquid filtered, and mortar and filter washed with 10 cc. of alcohol, the alcoholic solution spontaneously evaporated should yield a residue which after drying in a desiccator, should weigh not more than 1 percent of the weight of the salt taken (limit of glycerin and other organic impurities).

8. The aqueous solution (1 in 20) should not respond to the U. S. P. VIII Time Limit Test for heavy metals.

9. Portions of 10 cc. each of an aqueous solution of the salt (1 in 100), acidulated with acetic acid, should not at once become turbid on addition of ammonium oxalate T. S. (Calcium) nor, when acidulated with nitric acid, at once on the addition of barium chloride T. S. (Sulphates), nor more than slightly opalescent on addition of silver nitrate T. S. (Chlorides).

10. If a solution of 2 to 3 gm. of the salt, accurately weighed, in 50 cc. of distilled water be titrated with normal hydrochloric acid V. S., with methyl orange as indicator, each cc. of the V. S. required corresponds to 0.2702 gm. of sodium glycerophosphate ($C_3H_7O_3PO_3Na_2+3H_2O$).

STRYCHNIAE GLYCEROPHOSPHAS.

Strychnine Glycerophosphate. (Strychnine Glycerinophosphate.)

1. The glycerophosphate of the alkaloid strychnine $(C_{21}H_{22}O_2N_2)_2P\,O_4H_2(C_3H_7O_3)+6H_2O=948.56$. It should be kept in well-stoppered bottles.

2. White rhombic crystals or powder, odorless and having at first a faint sweet taste afterward intensely bitter.

3. Soluble in 350 parts of water, the solution being neutral or slightly alkaline to litmus paper, in 250 parts of alcohol, slightly soluble in chloroform and very slightly in ether.

4. Upon incinerating 0.2 gm. it should yield no weighable residue.

5. The addition of sulphuric acid to the salt produces no color, but on adding a fragment of potassium dichromate, a deep blue color is obtained, changing to deep violet, then to purplish-red, cherry-red and finally to orange or yellow.

6. If to an aqueous solution, ammonia water be added to slight excess, a white precipitate is formed which is readily soluble in chloroform.

7. A saturated aqueous solution, acidulated with nitric acid, should not be rendered more than faintly turbid on the addition of silver nitrate T. S. (limit of chlorides).

8. A saturated aqueous solution of the salt, acidulated with hydrochloric acid, should not show more than a slight turbidity on the addition of barium chloride T. S. (limit of sulphates.)

9. If to an aqueous solution, a slight excess of ammonia water be added and the mixture filtered, the filtrate should not show more than a slight turbidity with magnesia mixture T. S. (phosphates).

TEREBINTHINA LARICIS.

Larch Turpentine. Venice Turpentine.

1. A viscid oleoresin obtained from *Larix Europea* De. C. (*Fam. Pinaceae*).

2. A nearly transparent, yellowish or yellowish green, thick liquid, heavier than water, having a terebinthinate odor and a bitter characteristic taste. Completely soluble in alcohol, glacial acetic acid, acetone and chloroform. Almost entirely soluble in petroleum benzin with separation of a light flocculent deposit.

3. The oleoresin may have a slight greenish fluorescence when viewed by reflected light but should exhibit no violet or purple fluorescence (absence of rosin oil).

4. One part by weight of Larch Turpentine should dissolve completely, forming a clear solution, in three parts by weight of 80 percent. alcohol (absence of turpentine or other adulterants).

5. If 5 grams of Larch turpentine be dissolved in 25 cc. of alcohol, a few drops of Phenolphthalein T. S. added and the solution be rendered slightly alkaline by addition of a 10 percent solution of potassium hydroxide, the resulting solution should be clear and transparent and no separation of oily drops should occur (absence of rosin oil). The acid number should not be over 80.

TERRA SILICEA PURIFICATA.

Purified Siliceous Earth. Purified Kieselguhr. Purified Infusorial Earth.

1. A form of Silica (SiO_2) consisting of the frustules and fragments of diatoms, purified by boiling with diluted hydrochloric

acid, washing and calcining. It should be kept in tightly closed containers in a dry place.

2. Purified Siliceous Earth is an odorless, white, or not more than a light gray or light buff colored, very light and very fine powder passing through a number 120 sieve. It readily absorbs moisture and will retain four times its weight of water without the mixture becoming fluid.

3. It is insoluble in water, acids or dilute alkaline solutions.

4. Upon heating it should not lose more than 10 percent of its weight (absence of excessive moisture).

5. If boiled with distilled water and filtered the filtrate should be colorless and neutral to litmus paper.

6. If 1 gm. of purified siliceous earth be added to 25 cc. of diluted hydrochloric acid no effervescence should occur (absence of carbonates), and after boiling and filtering the filtrate should be colorless and portions tested should give no precipitate with barium chloride T. S. (absence of sulphates), and not more than a faint blue reaction with potassium ferrocyanide T. S. (limit of iron). Upon evaporating 10 cc. of this acid filtrate to dryness on a water-bath not more than 0.001 gm. of residue should remain (limit of soluble impurities).

THEA.

Tea.

1. The dried leaves and leaf buds of *Thea sinensis* Linne and other species of *Thea* (*Fam. Ternstroemiaceae*) prepared by the usual trade processes of fermenting, drying and firing. Sometimes slightly flavored by addition of the leaves of the sweet olive, rose, jasmin or orange flowers.

2. In small cylindrical rolls or balls of a greenish or blackish color. When softened in water and unfolded the leaves are from 20 to 75 mm. long, elliptical, oblong or lanceolate, acute or emarginate at the apex and sharply but irregularly serrated. The midrib is prominent; the upper surface of the leaf glabrous and the under surface sometimes hairy.

3. Tea has an agreeable aromatic odor, varying according to variety and a pleasant bitter and astringent taste. On ignition tea should leave not less than 4 percent nor more than 7 percent of ash, of which one-half should be soluble in distilled water.

4. If one gramme of tea be shaken with 20 cc. of distilled water and the liquid separated by filtration, the filtrate should give not more than the faintest turbidity when treated with silver nitrate T. S. (limit of chloride).

5. If a small portion of the tea be treated with warm distilled water and the leaves removed by straining, no colored nor heavy sediment should be observed in the strained liquid on standing, (absence of colored and mineral facings.)

6. If one gramme of tea be dried at 100° C. until it ceases to lose weight, the dried residue should weigh not less than 0.9 gm. (limit of moisture).

7. If one gramme of tea be boiled with 100 cc. distilled water, the solution strained and the strained liquid be treated with excess of lead oxide and filtered, the filtrate should show no greenish color or precipitate on addition of Ferric Chloride T. S. (absence of added tannin).

8. For pharmaceutical purposes a good grade of "black" tea, assaying, when tested according to the following process, not less than 2.5 percent of caffeine should be employed.

Assay of Tea.

Tea .....6 gm.
Lead Acetate,
Sodium Phosphate,
Chloroform,
Ether,
Distilled Water, each a sufficient quantity.

Introduce the tea into a flask provided with a reflux condenser and pour upon it 600 cc. of distilled water. Attach the condenser and boil for eight hours continuously. At the expiration of this time add to the hot liquid 4 grammes lead acetate and continue the boiling for ten minutes longer. Remove from the source of heat and allow to settle. Filter off 500 cc. of the liquid (equivalent to 5 grammes of tea) and evaporate to 50 cc. Transfer to a flask or beaker and remove the lead acetate by adding a slight excess of sodium phosphate. Filter the liquid, washing the precipitate thoroughly, and again evaporate the filtrate to 50 cc. Transfer to a separating funnel and wash out the caffeine with four successive portions of 20, 15, 10 and 10 cc. of chloroform. Draw off the chloroform solution into a tared flask and distill off the chloroform from the combined liquids. When the residue is dry add

2 cc. ether and evaporate on a water-bath carefully to avoid decrepitation. Continue the heating until the weight remains constant after cooling. The weight of the residue multiplied by 20 will give the percentage of caffeine contained in the tea.

TONKA.

Tonka Beans.

1. The prepared ripe seeds of various species of Coumarouna (Dipteryx). (*Fam. Leguminosae*).

2. Black, or grayish from an efflorescence of coumarin, the testa oily and wrinkled; from 25 to 50 mm. long, 10 to 25 mm. broad, and 7 to 15 mm. thick; oblong, with one edge thin and one end slighly pointed; ex-albuminous, the embryo of two brownish, fleshy cotyledons and a pinnatifid plumule; cotyledons usually enclosing a thin cavity which frequently contains crystals of coumarin. Odor strong, vanilla like. Taste aromatic and strong of coumarin.

Upon incineration tonka leaves not more than 4 percent of ash.

VINUM PORTENSE.

Port Wine.

1. An alcoholic liquid made by fermenting the juice of fresh grapes, the fruit of *Vitis vinifera* Linné (Fam. *Vitaceae*), in the presence of their skins, and fortifying with alcohol or brandy.

2. The term "Port Wine" was originally limited to that variety produced in Portugul. Now, however, the term "Port Wine" means any natural wine having the color and peculiar flavor generally associated with this wine. For medicinal and pharmaceutical purposes, native wines* may be used as Port Wine, provided that they correspond to the description and tests given below.

3. Port wine should be preserved in well-closed casks, filled as full as possible, or in well-stoppered bottles, in a cool place.

4. A reddish liquid having a pleasant odor free from yeastiness, and a fruitty, moderately astringent, pleasant, and slightly acidulous taste, containing not less than 18, nor more than 22 percent of absolute alcohol by volume.

5. The specific gravity at 25° C. should be not less than 1.000 nor more than 1.025.

6. If 100 cc. of Port Wine be evaporated, the residues, when dried during 12 hours on the water-bath, should amount to not less than 8 nor more than 13 gm.; this residue, ignited at a low temperature and burned gradually to whiteness, moistened with a small portion of ammonium carbonate T. S., and again carefully ignited, should weigh not less than 0.2 nor more than 0.4 gm.

7. To neutralize 50 cc. of Port Wine should require not less than 2.5 cc. nor more than 4 cc. of Normal Potassium Hydroxide V. S. (limit of *free acid*), litmus T. S. being used as indicator.

8. If 10 cc. of Port Wine be diluted with an equal volume of water, and treated with 5 drops of ferric chloride T. S., the liquid should acquire a brownish green color (presence of *tannic acid*).

9. If 75 cc. of Port Wine be acidified with 5 cc. of diluted sulphuric acid (1 to 3), and thoroughly shaken in a separator with a mixture of equal parts of petroleum benzin and ether, and if the solvent, after separation, be transferred to a porcelain dish, allowed to evaporate spontaneously and the residue dissolved in 3 cc. of water, the solution should not have a sweet taste (absence of saccharin), nor should it give a violet color upon the addition of a diluted solution of ferric chloride (1 to 200) (absence of salicylic acid).

10. If 50 cc. of Port Wine be treated with a slight excess of ammonia water, the liquid should acquire a green or brownish-green color, if it be then well shaken with 25 cc. of ether, the greater portion of the ethereal layer removed, and evaporated in a porcelain dish with an excess of acetic acid and a few fibres of uncolored silk, the latter should not acquire a crimson or violet color (absence of red aniline colors).

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* Food Inspection Decision No. 122 requires that such wines be labeled with the name of the state in which they are produced.

Report on the Progress of Pharmacy

For the Year 1912

(Tenth Installment.)

1. *Medicinal Plants. Comparative Activity.*—Dr. James Burmann has conducted a line of experiments since 1907, assaying each year fresh plants of aconite, belladonna, colchicum, Digitalis ambigua and Digitalis purpurea. The plants were wild grown; the aconite being collected in Canton Vaud; the belladonna around Aigle, the colchicum also around Aigle; the Digitalis ambigua in Canton Valais and Digitalis purpurea in Alsace. All were collected at flowering except colchicum, which was gathered at seeding time (June-July). The assays were by the gravimetric method of Keller; the digitalis species being assayed for digitoxin. The results are tabulated below:

Aconite (Percentage of aconitine).

1907—0.104%	1909—0.042%
1908—0.100%	1910—0.054%
1911—0.094%	

Belladonna (Percentage of Atropine).

1907—0.094%	1909—0.045%
1908—0.082%	1910—0.046%
1911—0.099%	

Colchicum (Percentage of colchicine).

1907—0.190%	1909—0.144%
1908—0.160%	1910—0.148%
1911—0.200%	

Digitalis ambigua (Percentage of Digitoxin).

1907—0.134%	1909—0.067%
1908—0.120%	1910—0.069%
1911—0.148%	

Digitalis purpurea (Percentage of digitoxin).

1907—0.078%	1909—0.033%
1908—0.063%	1910—0.037%
1911—0.070%	

Schweiz. Wschr. f. Chem. u. Pharm., L. (1912) No. 1, 2, H. V. A.

2. *Antidiphtheric Sera: Commercial Variation.*—De Gottrau calls attention to a prescription received from an oculist of Lausanne calling for Roux's Antidiphtheric Serum 10 cc. diluted with physiologic salt solution 100 cc.; the mixture being used for infectious diseases of the eye. His article is to call attention to the fact that the sera prepared in Switzerland (Institute of Bern) are not identical in strength with the Roux sera and he gives the proportion of Swiss sera he used—Schweiz. Wschr. f. Chem. u. Pharm., L. (1912) No. 1, 11 H. V. A.

3. *Plants of Dioscorides: Comparison with Modern Specimens.*—E. Emmanuel, after describing the various manuscripts of Dioscorides, the earliest printed editions of the works of the founder of materia medica and the most comprehensive modern translations, mentions the "Codex Constantinopolitanus" of A. D. 512 as the oldest and in some respects the finest of the manuscripts, particularly since it is richly illustrated. An exact replica of this manuscript was published in 1906, in an edition de luxe and the illustrations found therein have been carefully compared with the herbarium of oriental plants owned by M. Boissier of Chambesy, Switzerland. His reports on the botanical origin of the 381 plants pictured in this oldest manuscript of Dioscorides is given in the article in tabulated form along with the previous conclusions of Tschirch as published in the latter's Handbuch der Pharmakognosy.—Schweiz. Wschr. f. Chem. u. Pharm., L. (1912), Nos. 4 and 5, 45 and 64, H. V. A.

4. *Ants: Medicinal Use.*—Fr. Berger presents an interesting sketch of the history of ants in medicine from ancient times until today, particular reference being made to the present use of ants in "old wives medicine" in primitive districts. The article is accompanied by excellent bibliographical references.—Schweiz. Wschr. f. Chem. u. Pharm. L. (1912) Nos. 4 and 5, 51 and 72. H. V. A.

5. *A False Ipecac from Colombia: Pharmacognostic and Macroscopic Description.*—C. Hartwich reports a new so-called ipecac which contains no alkaloid; hence is useless. It is 0.8 to 1.0 cm. thick, black-brown externally, with yellowish wood. The bark is

thinner than in the true ipecac and is devoid of the characteristic annulae of the official variety while the wood is correspondingly thicker (0.5 cm.) Much of the bark is broken off (likely due to unequal drying) leaving characteristic fissures and in some cases bare wood.

Anatomically, the bark shows first, a thin layer of dark brown cork with flat cells without very thick walls; second, a small phelloderm 1 to 4 cells thick, with thin-walled parenchyma containing amorphous inulin or similar carbohydrate, and also "rosettes" of calcium oxalate; third, inner layer of bark, radially striped sieve tubes, which on longitudinal section show oblique and calloused sieve-plates. These sieve tubes are found only in the inner layer but a short distance from the cambial layer. There are no sclerenchyma in the bark but occasional lignified cells as shown by reference to phloroglucin—HCl reagent.

The wood layer is radial with medullary rays 1 to 2 cells broad and as much as 40 cells long, the cells being lignified, pitted and containing inulin as the only carbohydrate and also calcium oxalate, both in large single crystals and in rosettes.

The wood wedges contain first, normal wood vessels, some as much as 81 microns in diameter and some filled with fungoid growth; second, wood vessels with branched ends; third, occasional tracheids; 4th, some parenchyma containing calcium oxalate "drusen"; fifth and chiefly, much thickened libriform fibres which reagents show are not lignified.

The author has not been able to exactly identify this new false ipecac, but comparison of it with the other so-called ipecacs leads him to the opinion that it comes from a plant of the Malpighiaceae and that it closely resembles an illustration which Guibourt in his "Historie Naturelle des Drouges Simples" (1876) called "Ipecacuanha gris-blanc de Merat." The article closes with a classification of all the known ipecacs including the one just described.—Schweiz. Wschr. f. Chem. u. Pharm., L. (1912) No. 7, 93. H. V. A.

29. *Amount of Nicotine in the Tobacco Plant.*—Chuard and Mellet report an investigation of the nicotine content of tobacco from the sprout in early spring to the defoliated plant in the fall. The results were as follows, the nicotine being expressed in parts per thousand: 1. Sprouts three weeks old, traces of nicotine in entire sprout. 2. Young plants 7 weeks old (after *"repiquinage"*) leaves 0.324; roots 0.234. 3. Plants 10 weeks old (before topping), leaves 0.447; stems 0.081; roots 1.085. 4. The cut apex from plant 10 weeks old, 0.687. 5. The topped plant 13 weeks old (at beginning of development of *"repousse axilliares"*) leaves 4.989; stems 0.933; root 2.890; small "repousses" 1.490; large "repousses" 1.970. 6. Plants 19 weeks old (just at withering of leaves), leaves 9.202; stems 0.868; roots 2.669; "repousses" 1.568. 7. Withered stalk (after decay of leaves), stems 0.972; roots 1.987; "repousses" 1.283. The above figures refer to the fresh plant and the paper gives another table showing percentage of nicotine in each of the above samples when dried.—Schweiz. Wschr. f. Chem. u. Pharm. L. (1912) No. 31, 470. H. V. A.

30. *Structure of Panama Hat Fibers.*—The fibers are from the leaves of Carludovica palmata and is found on the banks of the Rio Yapacani in Bolivia. Hartwich reports microscopical structure of these fibers illustrating article with four figures.—Schweiz. Wschr. f. Chem. u. Pharm. L. (1912) No. 32, 481. H. V. A.

31. *An Exact Centrifuge Sediment Measure.*—Dr. C. Strzyzowski describes a new sediment tube made by F. Hugershoff of Leipzig which is calibrated to 1/100 of a cubic centimeter and has metallic cap at base to render it stronger.—Schweiz. Wschr. f Chem. u. Pharm. L. (1912) No. 33, 497. H. V. A.

Yttrium: The Quantitative Determination of.—C. F. Whittemore and C. James found that Yttrium could be quantitatively separated from sodium by means of ammonium sebacate, the average yield being 0.1578 gm. Y_2O_3 found in place of 0.1575 gm. calculated. It was found that in the presence of potassium, a double precipitation with ammonium sebacate was necessary to effect complete separation of the Yttrium from the potassium.

Oxalic acid in the presence of ammonium chloride effects a perfectly satisfactory separation from iron, aluminum, lithium, and magnesium, the precipitation being carried out in the cold.—J. Am. Chem. Soc., June, 1912, Vol. 34, p. 772. (L. A. B.)

Tellurium: Sulphide of—In a careful quantitative study of the compound formed

when H_2S is allowed to act on solutions of H_2TeO_3, W. O. Snelling states that the precipitate formed consists of tellurium and sulphur of one atom of tellurium to two atoms of sulphur, and that the entire quantity of sulphur can be extracted from the precipitate by means of CS_2, if the solution has been allowed to stand for some time or has been warmed.

Tellurium sulphide (TeS) appears to be formed, but is decomposed at 0° C. in about four hours or instantly if heated, as is shown by the fact that only half the sulphur may be extracted by CS_2 at the moment of precipitation, and at a temperature of 0° C.

The author concludes "that a sulphide of tellurium having the formula of TeS exists; that it is formed by passing hydrogen sulphide gas into a solution of tellurous acid, according to the reaction $2H_2S+H_2TeO_3=TeS+S+3H_2O$, and that this compound decomposes at any temperature higher than 0° or in about four hours at that temperature."—J. Am. Chem. Soc., June 1912, Vol. 34, p. 802. L. A. B.

Perchlorates: A Quantitive Determination of.—A B. Lamb and J. W. Marden (N. Y. Univ.) state that perchlorates may be rapidly and accurately determined by heating the perchlorate in a glass test tube (Jena) fitted with two plugs of asbestos wool, each 15 mm. thick and placed about 45 mm. apart. The tube is clamped in a nearly horizontal position and the sample heated gently at first until the effervescence, due to the escape of oxygen, ceases, after which the chloride is thoroughly fused. The asbestos plugs prevent the loss of chloride by volatilization.

After cooling, the contents of the tube is transferred to a filter and thoroughly washed with warm water, the chloride being determined in the filtrate as silver chloride. The method gave results varying less than 0.02 percent from the calculated values.—J. Am. Chem. Soc. June 1912, Vol. 34, p. 812. L. A. B.

Southern Cypress: Oil of the.—Allen. F. Odell gives as the analysis of the oil from the cones of the southern cypress, (*Taxodium distichum,* Rich.) the following values:

Dextro pinene 85 percent, dextro limonene 5 per cent, a pseudo terpene alcohol (Sabinol?) 2 percent, carvone 3 percent, a tricyclic sesquiterpene 3 percent, the remainder composed of substances boiling above 275° C. No aldehydes were found in the oil.—J. Am. Chem. Soc., June 1912, Vol. 34, p. 824. L. A. B.

Jamaica Camphor: Determination in Leaves, Twigs and Wood.—H. W. Emerson and E. R. Weidlein of the University of Kansas, state as the result of a determination of the Camphor in the leaves, twigs and wood of camphor trees grown in Jamaica, that it is possible to grow camphor to advantage in Jamaica. The leaves were found to be richer in camphor than the twigs or the wood, and they state that very little camphor is lost by the ordinary weather drying of the leaves. The green leaves were found to average 1.32 percent pure camphor: dried leaves=1.569 percent; green twigs=0.58 percent: dried twigs=0.5445 percent: wood=0.61 percent.—Jour. Ind. and Eng. Chem., Jan. 1912, Vol. 4, p. 33. L. A. B.

Carbon Dioxide: Volumetric Determination.—Leon T. Bowser describes a form of apparatus for a volumetric determination of CO_2. The CO_2 is generated from the sample in a small flask, by means of acid, and distilled over into a strong alkaline solution contained in an absorption tower, containing glass beads. The CO_2 is absorbed in the alkaline solution in the tower and is afterwards titrated by means of standard acid, phenol (phthalein and methyl orange being used as the indicators, and hydroxide being neutralized and the carbonate converted into bicarbonate with phenolphthalein as indicator, the titration is then finished with methyl orange. The advantage of the method lies in the form of apparatus used.—Jour. Ind. and Eng. Chem., March 1912, Vol. 4, p. 203. L. A. B.

Hydrogen Peroxide: History, etc.—Professor C. B. Jordan tells an interesting story of Hydrogen Peroxide, accompanying his paper with charts showing the effect of varying conditions upon the permanency of its solutions and particularly calling attention to the fact that bottles stoppered with cotton seem to conserve the strength of this preparation better than cork-stoppered bottles. The charts demonstrate the necessity of keeping solutions of H_2O_2 from exposure to light. He calls attention to an excess of acid in many commercial samples.—Proc. Ind. Phar. Assoc., 1912, 58-65. E. C. M.

Spiritus Aetheris Nitrosi.—This preparation should never be kept in bulk, but should be immediately placed in one or two ounce con-

tainers, tightly-stoppered and sealed with paraffin or wax, and these kept in a cool, dark repository. The paper is accompanied by a table showing the desirability of the latter method in the preservation of this preparation over the way usually practiced.—C. B. Jordan, Proc. Ind. Phar. Assoc. 1912, 53-54. E. C. M.

Progress in Methods of Physiological Testing.—Prof. C. R. Eckler says that the activity of many drugs cannot be determined by chemical analysis, either because "their chemistry is improperly understood or is of such a nature as not to admit of qualitative methods," and he describes the methods, both qualitative and quantitative, of testing some of such drugs physiologically. He instances digitalis, ergot and Indian Cannabis as being among such drugs as cannot be assayed by chemical means, and describes the methods by which their physiological activity may be determined. For the digitalis series of drugs, including with that drug, strophanthus, convallaria, squill and apocynum, four methods of examination are used in this country: the guinea-pig, cat, twelve-hour frog, and one-hour frog heart method. Ergot is tested by the uterus-test, blood-pressure method on dogs, and the cock's-comb test. Indian Cannabis is tested by comparison of the effects, on several pairs of dogs, of a standardized drug and the drug which is under examination. The dose of the drug to be standardized which produced a certain effect, is compared with that of the standard preparation which was required to produce the same effect, and by comparison of results on several animals conclusions are drawn. He says that the state of affairs concerning physiological methods and standards is somewhat similar to that which existed a number of years ago regarding chemical methods and standards, when every chemist chose his own methods and no uniform system of analysis had been developed. He looks forward to a gradual development of physiological standardization along definite and certain lines, and hopes for the official adoption of physiological methods and standards covering all the important drugs and preparations that cannot be assayed by chemical means.—Proc. Ind. Phar. Assoc. 1912, 65-70. E. C. M.

Asafoetida Tablets: Assay of.—L. Henry Bernegau and George E. E'We recommend the following process for assay of assafoetida tablets: A number of tablets corresponding to about ten grains of asafoetida are powdered and extracted twice with chloroform. The residue, insoluble in chloroform, is moistened with 5 percent hydrochloric acid, some sand is added, and the mixture is evaporated to dryness on a steam-bath. The residue is then extracted three or four times with hot chloroform, the chloroform extracts added to the first two extractions and the united chloroformic extracts evaporated to dryness on a water-bath in a tared flask. The resultant weight multiplied by two, represents about 98 percent of the equivalent of U. S. P. asafoetida in the tablets taken.—Proc. Penn. Phar. Assoc, 1912, p. 305. E. C. M.

Gelatin, Impurities in.—J. G. Roberts remarks that a quite frequent source of impurity in gelatin is the presence of sulphites, which are probably present as the result of the use of sulphur dioxide as a bleaching agent, although it has been claimed by some manufacturers that its presence is necessary as a preservative during the process of manufacture. While sulphites have been found in the majority of samples examined, it is usually there in very small quantities, sometimes only a trace. The term "technical" which is found on many packages is probably placed there because of this impurity. His examination for arsenic developed the fact that in some samples of German manufacture it was detected and therefore he thinks it advisable to test supplies of Gelatin from this source.—Proc. Penn. Phar. Assoc., 1912, pp. 310-312. E. C. M.

Glycerin Determination in Tooth Paste, etc.—Charles E. Vanderkleed and Fritz Heidlberg recommend the following method for the determination of glycerin in toothpaste:

An amount of the mixture containing about 2 grammes of glycerin was shaken in a centrifuge bottle with 30 cc. of a mixture of 2 parts of absolute alcohol and one part of absolute ether. After all the glycerin had dissolved in this mixture the bottle was centrifuged and the clear solution, containing glycerin, and phenol, soap and essential oils together with traces of chlorides was filtered through paper into a beaker. The extraction with the alcohol-ether mixture was repeated twice and the united solutions and washings were evaporated at a low temperature to a small volume. 20 cc. of water were added to it and the digestion continued on the water-

bath. When the volume had reached about 10 cc. the contents were transferred to a separator, the beaker rinsed repeatedly with water and the glycerin solution, after acidifying with dilute H_2SO_4, was shaken with about 20 cc. of ether, in this way separating the glycerin from the phenol, soap, and oils. The watery solution was drawn off, the ether washed twice, and the solution and washings evaporated and treated in the same way as the glycerin solution of the process for the determination of glycerin in suppositories before quoted.—Proc. Penn. Phar. Assoc., 1912, p. 308. E. C. M.

Glycerin in suppositories: Determination of—Charles E. Vanderkleed and Fritz Heidlberg recommend the following method, based upon Hehner's bichromate method for the determination of glycerin in suppositories: About half of the suppository (about 2 gm.) is dissolved in a separator with hot water acidified with sulphuric acid and shaken out with ether whereby a separation from the stearic acid is effected. The watery solution is evaporated on a steam-bath to a small volume, 10 cc. water are added and again evaporated to a small volume, thereby effecting a complete separation of the ether. The solution is rinsed into a 250 cc. volumetric flask, cooled, and filled to the mark with water. (In case a preliminary test showed the presence of chloride, it is better, after evaporation, to add a little freshly precipitated silver carbonate, from 0.1 gm. of silver sulphate. Let stand for ten minutes and fill up to the mark.)

Twenty-five cc. of the filtered solution are measured from a pipette into a 250 cc. volumeteric flask, 35 cc. of potassium bichromate solution are added, and lastly 25 cc. of strong sulphuric acid are added slowly under constant rotating to avoid ebullition. The flask is then transferred to a boiling water-bath for 20 minutes, cooled, and filled to the mark. In 25 cc. of this solution the excess of bichromate is determined by adding 20 cc. of potassium iodid T. S. and titrating against approximately N/10 $Na_2S_2O_3$, the factor of which toward the potassium bichromate solution has been determined previously. Calculate the amount of potassium bichromate which has been used to oxidize the glycerin to carbon dioxide. One cc. of potassium bichromate is equivalent to 0.01 gm. of glycerin.

The potassium bichromate solution is prepared by dissolving 74.615 gm. re-crystallized potassium bichromate in water, adding 150 cc. sulphuric acid, and diluting with water to 1000 cc. at 20° C.

In order to determine the factor of the sodium thiosulphate toward the potassium bichromate solution it is advantageous to dilute 10 cc. of the latter to 100 cc. and to use 10 cc. of this dilution for the titration. —Proc. Penn. Phar. Assoc., 1912, pp. 307-308. E. C. M.

Arsenic: Antidote for—Mr. Otto Raubenheimer suggests that Magma Magnesia N. F. is much better for preparation of arsenical antidote than is the magnesium oxide of the present official formula. He recommends that 300 cc. of milk of magnesia be diluted with 300 cc. of water and this mixture placed in a bottle holding about 1 liter; 40 cc. Liquor Ferri Tersulphatis diluted with 260 cc. of water to be placed in another bottle. When the antidote is required add the iron solution gradually to the magnesia mixture, shake well and the preparation is ready for instant administration. He claims for the preparation the following advantges:

1. The finely suspended magnesium hydroxide in the milk of magnesia forms a smooth and finely divided magma of ferric hydroxide.

2. Such a magma unquestionably has therapeutic advantages in combining more readily with the arsenic.

3. By pouring the iron solution into the diluted milk of magnesia a more voluminous magma will be obtained than by the reverse as directed in the U. S. P.

4. Milk of Magnesia, if properly prepared, is practically free from carbonate, while magnesium oxid always contains some carbonate, except when recently calcined.

In conclusion, he begs pharmacists to keep these two solutions on hand, side by side, ready for immediate use.—Proc. N. Y. Phar. Assoc., 1912, pp. 321-324. E. C. M.

Fluoride Salts: Antidote for—Professor E. H. LaPierre calls attention to the dangers pertaining to the use of Fluorid of Sodium in Roach and Ant Destroyers and to the improper selection of Lime Water as an antidote for cases of poisoning from fluorid salts, and suggests in place of Lime Water to use Milk of Lime.—Proc. Mass. Phar. Assoc., 1912, p. 38. E. C. M.

Klip Buchu: Occurrence in our commerce as an adulterant of Buchu, U. S. P.—Klip Buchu leaves, *Adenandra fragrans*, has been found in quantities of 17 percent in the long buchu of our market, by Prof. William Mansfield, of Columbia University. Klip Buchu grows in the same region as the official buchu and therefore is gathered by the laborers who are employed to gather that drug. It is in such cases as these that the pharmacognosist plays his part. In fact, it is just beginning to be recognized by dealers in drugs that a pharmacognostic examination of drugs of a vegetable origin, whether in the whole or in the powdered form, is absolutely necessary to determine the botanical origin, to guard against the mistakes of collectors and accidental or intentional adulteration.—Proc. N. Y. Phar. Assoc., 1912, pp. 297-303. E. C. M.

Official Preparations: Shall the druggist make or buy them?—Writing upon this subject, Mr. James H. Martin, of Winchester, Ky., divides the preparations for which formulas are given in the pharmacopoeia into thirty-one classes, all of which he asserts can be made to advantage by the druggists, with the exception of Extracts, Fluidextracts, Tinctures of potent drugs and some few of the liquors.—Pros. Kentucky Phar. Assoc., 1912, pp. 119-122. E. C. M.

Sweet Spirit of Nitre.—In order to determine the cause of the trouble connected with the method of manufacture and the storage of this preparation, Dr. Linwood A. Brown made an exhaustive study of this preparation, conducting a series of experiments to determine its permanency as prepared with absolute alcohol and with U. S. P. alcohol, and as kept under varying conditions, and concludes that, from the result of these experiments, it is demonstrated that absolute alcohol should be used in its preparation, and that it should be stored in small containers protected from the light.—Proc. Kentucky Phar. Assoc., 1912, pp. 134-136. E. C. M.

Oil of Peppermint: Influence by Cultivation.—This is article No. 7 by the Committee of the Austrian government for the increased cultivation of medicinal plants, which articles have since been published in book form: "Ueber Kulturversuche mit Arzneipflanzen in Korneuburg," by Prof. Dr. W. Mitlacher. The peppermint herb was cultivated under various conditions, the second highest yields being obtained with fertilizers of manure and saltpeter, and the highest with manure, saltpeter, superphosphate and potash salt, which herb also yielded the highest percentage (0.95) of volatile oil. Dr. Gustav Mossler, of the chemical-pharmaceutical laboratory of the University of Vienna, made a complete analysis of the different oils, which he tabulated and which should be consulted in the original article.—Ph. Post, 1912, No. 1, 2-5. O. R.

Tablets: Their Manufacture by the Pharmacist.—Magister Jos. Hoyer, apotheker in St. Valentin, deplores the fact that the pharmacist is flooded with tablets prepared by factories and suggests a remedy, namely, the manufacture of these tablets by the pharmacist himself. From his own practical experience the author writes a series of articles on the technique of tablet making.—Ph. Post, 1912, No. 2, 4, 6, 10, 12. O. R.

Formulas for Foreign Specialties.—As an answer to numerous queries as to the composition of proprietary preparations, formulas are given for: Aniodol, Antikamnia, Beecham's Pills, Beecham's Glycerin and Cucumber, Pilules savonneuses de Boissy, Boricine Meissionier, Bromidi, Bromo Seltzer, Vinaigre de Bully, Cachets Faivre, Calvert's Carbolic Tooth Powder, Cascarine Leprince, Chlorodyne Browne, Coaltar Saponné Le Boeuf, Colchi-Sal Midy, Creme Girard, Creme Simon, Diadermin, Eau de Bôtot viritable, Eau des Jacobins, Eau dentifrice du Dr. Pierre, Eau précieuse Dépensier, Elixir dentifrice des Bénédictins de Toulac, Elixir Grez, Elixir Nyrdahl, Euptnine Vernade, Foster's Salbe, Gouttes livoniennes Trouette, Grains de Val, Granules des Vosges, Grayon Gyrol, Hazeline-Cream, Histogénol Naline, Listerine, Lotion Deguéant, Vin Coca Mariani, Pilules Orientales, Panguadine, Pesquis Uran-Wein, Pierre des Fakirs, Pink Pills, Poncelet's Hustenpastillen, Potion du Chartreux, Poudre Decock, Purgetyl Détry, Purgul Koehly, Racahout des Arabes Delangrenier, Scavuline, Sirop Delabarre, Sirop Deschiens, Sirop Famel, Sirop Rami, Solution Pautauberge, Thaolaxine, Thé Chambard, Verne's Boldo-Elixir, Pastilles Valda, Vin de Vial.—Ph. Post, 1912, No. 2, 16, from Zblatt Pharm. O. R.

Pharmacopoea Austriaca VIII: Comments.—The following comments are submitted by the scientific laboratory of G. Hell & Co.:

Aluminum Aceticum Solutum (Lig. Alumin Subacet.) A comparison is made between the preparation of the seventh and eighth edition and the conclusion is reached that the specific gravity should be 1.0375 instead of 1.046.

Chininum Tannicum. The solubility statement in 800 parts of cold water and in 30 parts of hot water is questioned.

Extractum Belladonnae Foliorum. The prescribed alkaloidal content=2 percent is too high, as belladonna leaves containing 0.03 percent alkaloid yield an extract with an alkaloidal content of 1.6 percent.

Extractum Chinae frig. parat. siccum. The alkaloid content of this dry extract of cinchona, prepared by cold percolation, is about 20 percent and *not* 7.5 percent.

Extractum Dulcamarae Siccum. While all other dry extracts are diluted with acacia so that 2 parts of the dry extract represent 1 part of the pilular extract, Ph. Aust. VIII orders equal parts to be evaporated to dryness with the result that 1.7 parts of the dry extract represents 1 part of the pilular extract.

Extractum Hamamellidis fluidum The required dry residue of 23 percent is too high and 17-20 percent is more correct, especially as the leaves should yield 20 percent of extract. For the determination of the extract of this and other drugs it would be well to use alcohol of the same strength as employed in the preparation of the respective galenicals.

Extractum Liquiritiae. All other aqueous extracts are purified by precipitating the albuminous and mucilaginous substances with alcohol, and this should also be done in this extract.

Extractum Strychni. Extract of nux vomica is ordered to be prepared with diluted alcohol (68%) according to the general process given under extract of belladonna leaves, which, however, also dissolves the 4 percent of fat in nux vomica. After distilling off the alcohol this objectionable fat remains in the aqueous extract and causes same to deteriorate. This fat can be removed partly by means of paraffin or completely by extraction with petroleum ether. The alkaloid content of extract of nux vomica might be increased from 16 to 18 percent.

Solutions of Narcotic Extracts. Solutions of 10 parts of narcotic extract, 6 parts of water, 3 parts of glycerin and 1 part of alcohol, may be kept ready for dispensing. But this menstruum is unsuitable for extract of squill and Indian Cannabis.

Detection of Copper, Tin, Lead, etc., in the Ash of Extracts. The Austrian Pharmacopoeia orders these metals to be detected by the addition of H_2S water or T. S. to the HCl solution of the ash. But in the presence of iron oxide in the ash, as f. i., in Extract of Iron Malato, the H_2S water, especially when not fresh, will be oxidized and sulphur will be precipitated. In this case, as well as in general, it is best to use freshly generated H_2S gas.

Extractum and Tinctura Malatis Ferri. Several analysts have reported that when the calcined ash is treated with nitric acid or a nitrate in order to completely oxidize the carbon, ferrous oxide or iron and is then dissolved in HCl, free chlorine will be evolved; but they have failed to give an explanation except that this is due to a trace of nitric acid left in the ash. As it has been found in the laboratory of Hell & Co. that free chlorine will also be evolved even when no oxidizing agent is employed, the cause of this was traced to the manganese content of the iron, as apples are free from it. By the calcination of the ash MnO is oxidized to Mn_3O_4, which acts the same as MnO_2, reducing HCl to free Cl even at a temperature of 60° C. It is recommended to heat the HCl solution of the ash, so as to drive off the free Cl, and then determine the iron content iodometrically. By taking this precaution uniform results are obtained.

Ferr. hydrooxydat. dialysat. solut. It is shown that a great many dialyzed iron preparations in the market contain less than 3.5 percent of Fe and more than 0.239 percent of HCl or 0.378 percent of $FeCl_3$, as required by Pharm. Austr.

Hydrarg. Chloratum mite. When testing for $HgCl_2$ in calomel it is essential to use filter paper which is entirely free from Cl. It is recommended that such filter paper should be specified and should be included among the list of reagents, etc.

Natrium Chloratum. The flame test for potassium in sodium chloride is unreliable, quite especially as a great deal of blue glass is

not suitable and gives fallacious results. The authors recommend Koevenagel's reagent of Cobalt-sodium-hexanitrite, which produces a yellow precipitate in potassium solutions even as dilute as 1:2000. If 1 percent KCl is permissible in the official NaCl, then no precipitate will be produced in a 5 percent solution of sodium chloride.

Tincturae. The percentage of dry residue serves as the valuation of a great many tinctures, but is expressed as *"for the menstruum"* and *not* as in the *finished tincture.* That, therefore, the figures are too high can be seen in Tincture Benzoes, which should contain 18 percent of dry residue. Benzoin should contain 90 percent of alcohol soluble resin. The tincture is prepared by macerating 20 parts=18 parts soluble resin, with 100 parts of alcohol. As 118 parts of the finished tincture contain 18 parts of dry residue, therefore the percentage is only 15.25 and not 18.

Tinctura Strophanti. The seventh edition ordered the seed to be deoleated with ether, which, on account of also dissolving some strophantin, was changed to petroleum ether. The tincture was prepared with 90 percent alcohol. The eighth edition orders the bruised seed to be percolated with diluted (68%) alcohol into a 10 percent tincture. This preparation is unsatisfactory, as oil drops separate, gets turbid in cold weather and does not mix clear with water. The authors recommend that the drug should be standardized and that the tincture should be prepared from deoleated seed. (Such a tincture is also better tolerated by a weak stomach, not causing nausea.—O. R.)—Ph. Post, 1912, No. 4, 37-41. O. R.

Sal Karolinum Factitium: Legality of Name.—The City of Carlsbad petitioned that this name be deleted from the Hungarian Pharmacopoeia, on account of being a trademark infringement. It was further suggested to change the title to Sal factitium typi salis Karolini. The Hungarian health board, however, decided that the present title shall be retained, as it is well known to physicians and the public, and that the designation "artificial" cannot cause any misrepresentation or confusion, and is therefore no infringement on the rights of the city of Carlsbad and its "natural" salt.—Ph. Post, 1912, No. 5, 55. O. R.

The Pharmacist and the Law

ABSTRACT OF LEGAL DECISIONS.

REGISTERED PHARMACISTS — HYDROGEN PEROXIDE NOT A MEDICINE.—The conviction of the manager of a 5 and 10 cent store on a charge of dispensing and compounding medicines or poisons, namely, western peroxide or hydrogen peroxide, not being a registered pharmacist, brought up the question whether hydrogen peroxide is a medicine. It was held that technically it was a medicine, like many other articles found in grocery stores and paint shops and in the same way as alcoholic preparations for external use, water, zinc, tar, turpentine, copper, olive oil, lemon essence, resin, tooth washes, soda, some soaps, or bay rum and glycerin for the hands. Hydrogen peroxide was not claimed to be a poison, and was shown to have no medical effect when taken into the stomach, but is simply a detergent, a cleanser, and as a medical agent it was shown to be used only to cleanse and soothe the skin, to dissolve and remove impurities from wounds and ulcers, or from the mouth, teeth and ears. It is not generally or popularly known as a medicine, and therefore the sale of it was held not to be regulated by the statute under which the conviction was obtained. A dissenting opinion was to the effect that it had been shown that it is more than a preventative or detergent, as it is frequently prescribed and used as a curative agency, and that its primary and principal use is medicinal; and that it is so regarded by the state board of pharmacy.

It was also held that the word "store" as used in the first sentence of the statute means a store of the same kind or class as a pharmacy, and does not apply to a 5 and 10 cent store.

State v. Hanchette, Kansas Supreme Court, 129 *Pac.* 1184.

UNFAIR COMPETITION—IMITATION IN PACKAGES AND COLOR OF PRODUCT.—The Coca-Cola Company, in a suit in equity, sought protection against what it claimed to be unfair competition on the part of the

Gay-Ola Company. It exhibited various letters and circulars of the defendant, and the Tennessee Circuit Court, Western District, dismissed the bill. This was reversed on appeal to the Circuit Court of Appeals. It appeared that "Coca-Cola" is sold by the complainant in barrels or kegs, painted with a particular shade of red, and marked with the complainant's labels. Purchasers from the complainant are of two classes: First, soda fountain proprietors, who mix the essence with carbonated water and sell directly to the consumer; and, second, bottling companies, who add the necessary carbonated water, and put the product up in sealed bottles, and then sell this article to retail dealers. The defendant claimed to have discovered the complainant's formula, and to be in fact making the same thing. It wrote a series of letters to bottling companies which were engaged in bottling Coca-Cola to the effect that it would supply Gay-Ola for a less price than they were paying for Coca-Cola and that no one could tell the difference; that a substitution could be made and that Gay-Ola would, if desired, be shipped in plain, unmarked packages. The defendant also sent circular letters to soda fountain proprietors, setting out the cheap price and the merits of Gay-Ola and its identity with Coca-Cola, and quoting from a testimonial of a soda fountain proprietor that he sold it for Coca-Cola.

The appeal court considered the substantial question to be whether the complainant had a remedy against the defendant, or whether the remedy was confined to proceedings against that retail trade which was the immediate agent in deceiving the ultimate purchaser. That the defendant had planned and expected a benefit by the fraud to be practiced, and that it had deliberately furnished to the dealers the material for practicing the fraud, was hardly denied. The court held that the ultimate wrong contemplated was clearly to be classed as unfair competition, and the complainant was entitled to such relief as a court of equity could give, unless merit was found in the defense that the Gay-Ola Company had the right to make and sell the article which it did sell, and that it was not responsible for the fraud of its vendees. It was held that, the defendant being an accomplice, if not the principal, in the trick, injunction must go against it. That injunction should forbid all attempts directly or indirectly to encourage or induce the dealer to make the fraudulent substitution.

But the complainant also asked that the injunction extend to the use of barrels or kegs painted of the same color as the complainant's, and to coloring the product itself with the same color, and to using any packages not plainly marked Gay-Ola. On this point the court said that the name adopted by the defendant did not negative an intention to confuse. The product was identical, both in appearance and taste; and the form of script used in printing the "trade-mark" names was the same. Even if the use of each of these items of similarity was lawful, when accompanied by good faith and no intent to deceive, they put the product near that dividing line where good or bad faith is the criterion, and their presence puts upon the user a burden of care to see that deception does not naturally result. The coloring matter used by the defendant was non-functional, being added to the compound solely for coloring purposes, and in the quantity necessary to give it the color of the complainant's. It was held that the article was so likely to deceive as to its origin that it should be tagged in such a way that the tag would reach the notice of the final purchaser. As to the bottling part of the output, the defendant could apparently provide reasonably efficient means of notice, and so probably prevent deception by seeing that all the bottles were stamped and labeled prominently with the name of its product. As to the soda fountain part, the court did not see how deception could be sufficiently prevented, save by giving the product a non-deceptive color, although some other satisfactory means might be brought to the attention of the court below.

The fact that the complainant supplied a part of its product to consumers in the territory where the defendant did business, only through a second company, which bought and resold it, and which was also injured by the defendant's acts, did not make the second company a necessary part to the suit. And the fact that the complainant sold its product through a system of contracts tending to maintain monopoly in a trade-marked article, did not preclude it from maintaining its suit to enjoin the unfair competition.

Coca-Cola Co. v. Gay-Ola Co., 200 *Fed.* 720.

CONSPIRACY IN RESTRAINT OF TRADE.—A Texas corporation owned a secret formula for compounding a syrup used to make a drink called "Jersey-Creme." It entered into a contract with a bottling co-partnership, to which it agreed to give the exclusive bottling privileges in a certain territory. The bottlers agreed to buy from the corporation not less than a certain quantity of the syrup during a period of five years, and to use the corporation's copyrighted labels and bottles. The corporation became dissatisfied with the way in which the bottlers were performing their undertaking under the contract and declared it canceled. In an action by the bottlers for damages, it was held that the contract was a "conspiracy in restraint of trade" within the meaning of Section 3 of the Texas anti-trust statute of 1903. Such a conspiracy is defined by that section as follows: "Where any two or more persons, firms, corporations, or associations of persons, who are engaged in buying or selling any article of merchandise, produce or any commodity, enter into an agreement or understanding to refuse to buy from or sell to any other person, firm, corporation or association of persons, any article of merchandise, produce or commodity." "Jersey-Creme" was a "commodity" or "article of merchandise." The bottles and labels were only incidentals to the contract, which indirectly conferred upon the bottlers the exclusive right to purchase and resell the syrup.

Jersey-Creme Co. v. M. Daniel Bros. Bottling Co., Texas Civil Appeals, 152 *S. W.* 1187.

PERFORMANCE OF CONDITIONS.—The manufacturer of a drink contracted to assign territory to another party for the purpose of bottling the manufacturer's special drink according to his formula. The manufacturer agreed to advance the necessary advertisements to get the best results. In pursuance of this agreement he caused advertisements to be inserted in newspapers in the territory and furnished posters which were posted in the territory. There was nothing in the evidence to show that this method of advertising was not calculated to bring the business into public notice, and the other party never requested other or additional advertisements. It was held that the manufacturer had sufficiently complied with his agreement as to advertising.

The manufacturer also agreed to indorse paper to a specified amount, to be secured by the other party's bottling works, which must be in good running order and worth a specified sum. It was held that the second party could not properly call for any indorsement without first showing that he possessed a plant worth the specified sum and which was in good running order.

Walling v. Wainscott, Kentucky Court of Appeals, 153 *S. W.* 452.

CONDITIONAL SALES—RETAKING AND SALE—SELLER'S LIABILITY.—A firm purchased a soda fountain and apparatus under a contract of conditional sale, giving the seller 36 promissory notes, payable at intervals of a month each, for the balance of the price. The firm subsequently became bankrupt, and a trustee was appointed. The notes due previous to the bankruptcy had been paid. Those maturing afterwards were not paid. The seller of the fountain leased it to a third person, who carried on the business in the bankrupt's store, on monthly leases. The rental was duly paid, but was not indorsed by the seller upon the contract of sale. Four months after, the seller removed the fountain and apparatus from the store, and claimed to have retaken it then, and after 30 days caused notice of sale to be given, and the fountain was subsequently sold, apparently according to the provision of the New York law relating to conditional sales. That statute, Section 65, provides that where property is retaken by the seller under a contract of conditional sale, and is not sold by him at public auction within 30 days after the 30 days during which he is required to retain possession, he is liable for the return of payments made by the buyer. In an action by the bankrupt's trustee against the seller of the fountain it was held that the latter, having appropriated the rent of the fountain without crediting it on the contract, became liable to repay the installments paid by the buyer, though the contract purported to waive the statutory provision; an executory contract waiving such statutory provision being contrary to public policy. Two judges dissented.

Crowe v. Liquid Carbonic Co., New York Appellate Division, 139 *N. Y. Supp.* 587.

WRAPPING BREAD LOAVES IN PAPER.—A conviction was obtained under a charge of violating Chapter 15, New Hampshire laws of 1911, in not complying with a rule of the state board of health requiring loaves of bread exposed for sale to be wrapped in paper. Section 1 of the statute forbids the existence or maintenance of unclean, unhealthful, or insanitary conditions in any place where food is produced, stored or sold. Section 2 provides that "unclean, unhealthful or insanitary conditions or practices shall be deemed to exist * * * if food in the process of manufacture, storage, sale or distribution is unnecessarily exposed to flies, dust or dirt, or to the products of decomposition or fermentation incident to such production, storage, sale, or distribution." Section 3 authorizes the state board of health to enter and inspect any place used for the production, storage, or sale of food, and on violation found to issue an order for the abatement of the condition. Section 4 empowers the state board of health to make all necessary rules and regulations for the enforcement of the act. Section 5 imposes a penalty for failure to comply with its orders. The regulation of the state board of health ordered that all bread loaves, before removed from the baking room, should be wrapped in clean, unused paper, unprinted or printed on one side only.

It was held that the mere fact that the wrapping of loaves of bread in paper before they are offered for sale is attended with some expense did not prove that the requirement was unreasonable. It was not apparent how the object could be attained at less expense. It was claimed for the defendants that the regulation was an attempt to delegate legislative power. It was held that the legislature, in the exercise of the police power, may regulate, restrain, and prohibit whatever is injurious to the public health and morals, and, if upon a reasonable construction of the act there appears to be some substantial reason why such regulations will promote the public health, they will be sustained as a valid exercise of the police power. The act in question was within the police power of the legislature so far as its purpose to secure greater cleanliness in food is concerned. The act is complete in itself, therefore the order of the board of health was not invalid as an exercise of delegated legislative power. The board in making the order was not legislating, but was merely exercising a power conferred upon it as an administrative board.

The court added: "If the defendants had prevented the nuisance by adopting some other precaution than that of wrapping their bread in paper, it may be that they would not have been subject to prosecution for not complying with the rule; but they did not attempt to abate the nuisance in any effective way, but persisted in maintaining a condition of things about their shops and carts which the legislature had prohibited."

State v. Normand, New Hampshire Supreme Court, 85 *Atl.* 899.

REVIEW—SEIZURE UNDER PURE FOOD AND DRUGS ACT.—A proceeding under Section 10 of the Food and Drugs Act of June 30, 1906, praying for the seizure and condemnation of three barrels of vanilla, tonka and compound alleged to have been shipped from Chicago to San Antonio, Tex., where they were offered for sale, and that the contents were adulterated and misbranded, was dismissed by the district court for the Western District of Texas on the ground that the evidence showed that the goods seized were not transported or shipped for sale, but were shipped for the purpose of being used in the manufacture of ice cream, and therefore not liable to seizure under said Section 10, and on the further ground that the evidence failed to show that a preliminary hearing was afforded to the party from whom the sample was obtained and an opportunity given him to be heard, as provided for in Section 4 of said act. The Circuit Court of Appeals holds that the dismissal is not reviewable in that court on appeal, the proceeding in the district court being one at law and only reviewable by writ of error.

United States v. Hudson Mfg. Co., 200 *Fed.* 956.

SALE OF ADULTERATED VINEGAR—DEFECTIVE INFORMATION.—The Missouri Rev. St. 1909, Section 4841, makes a person guilty of a misdemeanor who "manufactures for sale or offers or exposes for sale as cider vinegar, any vinegar not the legitimate product of pure juice known as apple cider, or vinegar not made exclusively of said apple cider, or vinegar into which foreign substances, drugs or acids have been introduced." An information under the statute charged that the accused offered for sale "one barrel of vinegar

labeled and branded as cider vinegar, which was not the legitimate product of pure apple juice and was not made exclusively from apple cider." The St. Louis Court of Appeals, Missouri, holds that the information did not charge an offense under the statute, since it did not allege that the vinegar offered for sale was offered "as cider vinegar," which is the gist of the offense, under this statute. An indictment charging a statutory offense unknown to the common law must allege every fact essential to bring the accused within the statutory provision.

State v. Markus, 153 *S. W.* 488.

SILICA COMPOUND.—Volcanic earth dried and ground in a mill and used for external application to the human body is not a medicinal preparation for the use of the apothecary or physician as a remedy for disease. (U. S. v. Roessler & Hasslacher Chemical Co., 79 Fed. 313.) The dry pulverized earth here is used as a mud bath and cannot be deemed a plaster, healing or curative. It is dutiable according to the protest as an earth, wrought or manufactured under paragraph 90, tariff act of 1909.

United States v. Von Oefele, U. S. Court of Custom Appeals.

ASK THE DOCTORS.

It is quite the fashion for the druggists to complain that the doctors buy too much of their medicines from the physicians' supply houses. Many times these supply houses sell their goods for prices as high as those asked of the doctors by the drug store. Price does not explain all the business that goes to the supply houses. Many times, too many times, the supply house furnishes a very inferior grade of goods so that quality does not explain why they get the business. The simple reason why the doctor buys so often as he does from these houses is that they keep asking him to buy from them. They ask him by carefully written circular letters and by expert traveling salesman. If the druggist will ask the doctor to buy from him as often as he is asked by the supply houses, the druggist will get his trade unless he is far above the competing quotations, quality for quality. Get physicians' samples from your pharmaceutical manufacturer, put them in the physician's hands personally with an explanation of the use and price of the goods. Send personal letters to every doctor in town once a week. If the number is small, they can be written on the typewriter. If the number is large, reproduce them on a mimeograph or some such machine. You ought to have one anyway. Ask the doctor to buy from you and ask him just as often as you can. You will get results as sure as you do so.—*The Spatula.*

HOW TO INCREASE YOUR SALARY.

To sell a customer a toothbrush, for example, does not require a crafty and elaborate approach, such as none but a veritable Mephistopheles could attain, nor is it necessary that the clerk be a mind reader in order to seize the exact "psychological moment" to close the sale. What that moment is, his own common sense, good judgment or intuition, whatever you please to call it, will tell him. He does not need a handbook on psychology to tell him just when that crucial moment arrives.

In nine cases out of ten when you have shown the customer the superiority of the 25 cent brush he will choose it in preference to the 10 cent or 15 cent brush. Thus you will protect your employer's profit, and in all probability, the customer being pleased with the better service the brush gives him, will come back for another when he needs it.

Remember, that it is the customer both you and your employer are working for. It is the customer who pays the wages of you both. If it were not for the customer you and your employer would be looking for other jobs. So go just as quickly to serve him as you would for your employer, as the customer is the employer of you both, and therefore, he is the man to be pleased if the store is to make money. If the customers are not pleased the store will not prosper, and your chances of getting better wages go a glimmering.—*Voice of the Retail Druggist.*

Editorial Notes and Announcements

JAMES H. BEAL, Editor.....Scio, O.

All communications for insertion in the JOURNAL, or respecting advertising should be sent to the Editor.

The Association does not accept responsibility for the opinions of contributors. Offensive personalities must be avoided.

Under the rules of the Post Office the JOURNAL can be regularly mailed only to bona-fide paid subscribers. Subscriptions and association dues should be sent to the Treasurer, H. M. Whelpley, 2342 Albion Place, St. Louis, Mo.

Requests for back numbers, and claims for missing numbers should be sent to the Editor.

Claims for missing numbers will not be allowed if sufficient notice has not been given of change of address, and in no case if received later than sixty days from the date of issue.

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STATEMENT OF THE OWNERSHIP, MANAGEMENT, ETC.,

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(Signed) J. H. BEAL, Editor.

Sworn to and subscribed before me this 26th day of March, 1913.

(Seal) JAMES M. SPIKER,
Notary Public.

(My commission expires Jan. 26, 1914.)

<>

"THE DEADLY BICHLORIDE TABLET."

Under the above title the editor of the *Practical Druggist* alludes to the fact that "hundreds of people die annually by swallowing bichloride tablets or a solution of the same," and makes some very pertinent suggestions for the distinguishing of such tablets by means of color, shape, character of packages, etc.

The regulations which seem to him most effective are those prescribed by the German Pharmacopœia, namely, that they shall be composed of equal parts of bichloride and sodium chloride, colored bright red with an aniline dye, cylindrical in shape, twice as long as thick, each tablet wrapped in black paper bearing the word poison in white letters, and the amount of bichloride, and be dispensed in glass bottles which are also to be labeled poison.

Certainly such precautions are none too great in view of the danger involved.

A FAMILIAR EXCUSE.

"Some criticism has at times been indulged in because the Denver "bunch" seemed to run things at these annual gatherings, and while said "bunch" pleads guilty to the charge, it is argued in extenuation, that somebody has to run things, and none would be better pleased than they if the attendance from other points should be so large as to put Denver in a decided minority."

The above is from an article in the *Rocky Mountain Druggist* announcing the next annual meeting of the Colorado Pharmacal Association.

Any one who has seen the Denver druggists in action can believe that they are always ready to do their full share of work (or more, if necessary, to to make things go), but no one who knows them well will believe that they care a "rap" for the glory, or that they want to run affairs for their own benefit.

But the above was not quoted for the purpose of defending the Denver druggists against a silly and unjust charge, but because the same excuse will soon be heard in other states where the stay-at-home druggists will try to cover up their own delinquencies by the same puerile whine.

Any one who has had any experience in association work knows that those who do the most of it, do it from a sense of duty, and would gladly relinquish the offices to any others who would accept the duties annexed.

Giving as a reason for not attending the state meeting that some particular lot of people want to run the affair is about the most pitiful excuse that can be offered, and the druggist who is half a man won't offer it.

The chances are that you will be able to attend if you only think so, but if for any reason you can't go, for pure decency's sake send the boys a telegram saying, "More power to your elbows. I'm with you in spirit. If you want me to see my Senator or Representative, or need any financial help for legislative expenses next winter, just wire yours truly."

You'll think a lot more of yourself than if you fall back on the antiquated fib hereinbefore referred to.

"Every man can tell how many goats or sheep he possesses, but not how many friends."—*Cicero.*

The Bulletin Board

COMMUNICATIONS RESPECTING THE A. PH. A. HOME.

DENVER, COLO.

I am heartily in favor of carrying out your suggestions given in the JOURNAL for November, especially in regard to providing fireproof quarters for the repository of the historical collection. I do not believe that the maintainence of such a structure would put an excessive tax on the individual member.

I thank you for asking for an expression of my views on the subject.

Fraternally yours,

WM. BEUKMA.

COLUMBUS, OHIO.

Your circular letter concerning the A. Ph. A. Home has just been received.

I am heartily in sympathy with this movement and think it is just what we need for the furtherance of American Pharmacy.

Very truly yours,

M. N. FORD.

MINOT, N. D.

In response to the circular letter in reference to "Need of an Association Home," I would say that I am heartily in favor of such a proposition and do not see why the A. Ph. A. should not have one with its "sixty-one years of honorable and useful activity."

Wishing the A. Ph. A. success in all its undertakings, and assuring you that it is an honor to be a member of the association,

Yours very truly,

WM. L. BROMME.

NASHVILLE, TENN.

Answering your circular letter of recent date, I am of the opinion that the Association should have such a building as you mentioned and will be glad to cooperate with the Association in any way I can to this end. It certainly should be a source of satisfaction to the members of this Association if we had a permanent home and

think it would be incentive for new members.

Wishing the Association success in this line, I remain

Yours truly
F. L. SMITH.

PITTSBURGH.

By all means let us have permanent official headquarters, to which the living may look as the Mecca of pharmacy. And where, to our honored dead, we may establish permanent, useful memorials.

Fraternally yours,
LOUIS EMANUEL.

PHILADELPHIA.

I am heartily in favor of the project for a permanent home for the A. Ph. A. and will use my best influence to further the plan in every way possible.

Very truly yours,
CHARLES H. LAWALL.

CINCINNATI, OHIO.

With reference to an Association Home of which you speak in circular letter, would say that this no doubt would be a splendid undertaking, provided particularly if the Home be located in Cincinnati, which in my poor judgment would for many reasons be the most advantageous place to locate it.

With kindest regards,

Very truly yours,
FRANK H. FREERICKS.

NARRAGANSETT PIER, R. I.

In reply to your circular letter, would say that I am heartily in favor of the proposition, and that I would look upon it as an absolute necessity, which should be attended to as soon as possible.

Respectfully,
P. B. DAVIS.

CANTON, OHIO.

In reply to your circular letter just received regarding the matter of an "Association Home," would say that I consider it a very noteworthy project and it certainly would give the A. Ph. A. a much higher and firmer standing among pharmacists, physicians and laity and I certainly would favor it, providing means could be secured for the maintainance of such an institution.

Very truly,
C. R. ROTH.

BALTIMORE.

I heartily approve of an "Association Home." I have read the letter of Mr. J. W. England and agree with him that "Procter's greatest monument is his monumental work on Pharmacy, and no statue can continue this work; research work only can do so."

A building for this work, with a library known as "the William Procter Memorial Library," will, I feel confident, appeal to every member of the Association, and its establishment can soon be financed.

Very sincerely yours,
CHAS. H. WARE.

WINNIPEG, MANITOBA.

Received your circular letter asking for expression of opinion as to "Need for an Association Home." Am heartily in favor of the idea. It should be located on the map of North America as central as possible so that pharmacists from North, East, South and West can take it in in their travels.

Yours truly,
M. C. COLCLEUGH.

NEW YORK CITY.

I am in favor of a permanent home for the A. Ph. A., with laboratory equipment for working out problems for U. S. P. and N. F. preparations, and not only that an adjoining botanical garden would be of great benefit to the profession, instructing and educating, the best way now to cultivate medicinal plants, a matter of high importance, for example, hydrastis, it is getting scarcer. The same way with ipecac. The future problem for us all will be to cultivate medicinal plants, especially those which are gradually disappearing. The Department of Agriculture is doing its best; their book on American Medicinal Leaves and Herbs is a valuable edition, but it does not cover all medicinal plants, so long as important plants like hydrastis are not mentioned.

Respectfully,
W. J. KOCH.

GADSDEN, ALA.

I am always in favor and willing to aid in any necessary, progressive move, and I count this the most necessary and progres-

sive move made by our great Association in its history. I don't see how the A. Ph. A. has done without this home so long, and am sure every member sees this great need, and is willing to work for the same.

Yours fraternally,
C. WHORTON.

SEATTLE, WASH.

I certainly am in favor of an Association Home where permanent offices and headquarters, with experimental laboratories for the carrying out of N. F. and U. S. P. problems, containing library and offices. It seems to me that a society like ours which edits the N. F., should be more active in its propaganda.

If I can be of any further service, kindly let me know.

Yours truly,
D. C. BARTLEY.

CORNING, CALIF.

Your circular letter relating to the acquisition of an A. Ph. A. Home, is received.

I think such a home should be acquired. The wisdom and necessity of such a move is scarcely debatable. It is essential beyond question.

If a membership tax should be levied looking to the erection or purchase of such a home, I will gladly pay my share.

Yours truly,
DR. BYRON F. DAWSON.

OAKLAND, CALIF.

In regard to the proposition of an Association Home where archives can be maintained and where also a laboratory shall be established, it seems to be a very good one, and one which should have the approval of the entire membership.

Sincerely yours,
BOWMAN DRUG CO.,
R. A. Leet, Sec'y.

ST. LOUIS.

I have your letter regarding the necessity for establishing a permanent building or headquarters for the American Pharmaceutical Association. I beg to state that I am heartily in favor of the plan. We need a library and research laboratories such as those of the Deutsche Apotheker Verein or the Pharmaceutical Society of Great Britain. The cost of maintainance is, of course, to be considered, and if a satisfactory method of securing the necessary permanent funds be devised, I shall certainly vote for the proposition.

LEO SUPPAN.

NEW YORK CITY.

In reply to your recent communication relative to the need of an Association Home for the A. Ph. A., it would seem to me very desirable that the Association should provide itself with a permanent home, and I do not see any reason why the project could not be successfully carried through and properly maintained.

V. CHAPIN DAGGETT.

PITTSBURGH, PA.

I have read your article and several other items relative to establishing a home wherein may be safely stored and kept for reference the very valuable works and archives of the American Pharmaceutical Association and the other very valuable literature pertaining to the art of pharmacy and its allied branches, and perhaps providing the facilities of a laboratory where formulas may be experimented upon and much other important work performed.

There is no doubt in my mind but that your suggestion will prove successful and that it will be highly appreciated by many of the pharmacists of the country.

HERMAN G. BLANK, JR.

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SECTION ON HISTORICAL PHARMACY.

The Historian of the Association and the members of the Section on Historical Pharmacy are exceedingly desirous of making the sixty-first annual meeting of the American Pharmaceutical Association at Nashville, Tenn., notable by as complete a collection and presentation as possible of historical data and material relating to the practice of pharmacy in the southern states during the Civil war. An appeal is therefore made through the Journal to all members for contributions on this topic—personal reminiscences, data as to prices and drugs used, the use of native drugs in place of foreign drugs cut off by the blockade, the cultivation of botanical drugs, etc. The story of how the pharmacists of the South struggled to supply the

much-needed drugs and medicines and their utilization of native plants and minerals has never been adequately told. It is a chapter in the history of American pharmacy that our Association should compile as fully as possible.

All contributions will be welcome, anything that will add to the interest and value of the history of pharmacy during the Civil war. This topic seems particularly appropriate at the forthcoming meeting of the Association at a city so near many of the battlefields of the Civil war and where many still live who practiced pharmacy then. It is hoped that the responses will be general and generous. Papers or historical material may be forwarded to the Historian, the Chairman of the Section or to the Secretary.

FREDERICK T. GORDON,
Secretary Historical Section.
2113 W. Norris St., Philadelphia, Pa.

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AMENDMENTS TO KANSAS PHARMACY BILL.

Representing the influence of the Committee on Drug Reform in connection with the Legislative Committee of the Kansas Pharmaceutical Association:

1. Applicants for examination by the State Board shall have had, beside the practical experience of four years in compounding physicians' prescription, in the general duties of pharmacy, at least one year of high-school work or its equivalent and otherwise be duly qualified.

2. All prescriptions of practicing physicians shall be filed and retained by the dispenser, serially numbering, dating and filing the same. Said serial number, date and signature, together with proper directions, shall be placed upon the package or container in which said medicine is dispensed. Failure to keep prescription files in accordance with the provisions of this act shall be prima facia evidence of the violation of this law. The prescription files of the druggists shall be open to inspection by the proper authorities at all times.

3. Practitioners of medicine administering or supplying to his patients such articles as may be fit, proper and necessary, and dispensed by him, shall comply with the Kansas Food and Drugs Law and be subject to inspection as provided in said law. And it is also further provided that it shall be lawful for retail dealers to sell the usual domestic medicines and remedies in unbroken packages, not including any article enumerated in Schedule A and B. In case such dealers shall procure a license from the State Board of Pharmacy for a fee of $2.50 annually, not as a registered druggist but as a licensed dealer and said annual fee shall be paid within thirty days of the expiration of said license, otherwise said fee shall be $5.00.

4. Every one dispensing from a private stock shall be responsible for the quality of all drugs, chemicals and medicines he may sell or dispense.

5. The State Board of Pharmacy is authorized and directed to make and publish uniform rules and regulations not in conflict with the law, which rules and regulations may include, if necessary for the proper execution of the law, the collection and examination of medicines and drugs kept for sale or dispensing by any pharmacist or kept in stock by any physician, merchant or dispenser. Samples thus collected may be submitted to the Drug Laboratory established under the Food and Drugs Act. This Laboratory is located at the University of Kansas, School of Pharmacy. L. E. SAYRE.

Proceedings of the Local Branches

"All papers presented to the Association and its branches shall become the property of the Association, with the understanding that they are not to be published in any other publication than those of the Association, except by consent of the Committee on Publication."—By-Laws, Chapter X, Art. III.

Reports of the meetings of the Local Branches should be mailed to the editor on the day following the meeting, if possible. Minutes should be *plainly* written, or typewritten, with wide spaces between the lines. Care should be taken to give proper names correctly, and manuscript should be signed by the reporter.

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PHILADELPHIA BRANCH.

The last meeting of the Philadelphia Branch of the A. Ph. A. was held on the evening of March 4, 1913, with President Stewart in the chair.

The following resolution was submitted and adopted by the Branch:

WHEREAS, William McIntyre, Treasurer of the Philadelphia Branch of the American Pharmaceutical Association, and its first President, who has been a constant attendant at the meetings of the Association, died suddenly in the midst of his activities February 1, 1913; be it

Resolved, That the Philadelphia Branch of the American Pharmaceutical Association record upon its minutes the natural feelings of regret incident to the loss of a faithful officer, and a wise counselor whose honorable

career as a pharmacist and citizen with high ideas of civic usefulness will cause his name to be cherished by his associates with loving remembrance.

We convey our sympathy to the bereaved family.

Committee: (Signed)
EDWIN M. BORING,
W. L. CLIFFE,
FRANKLIN M. APPLE.

In the absence of Mr. George M. Beringer, chairman of the committee having under consideration a set of resolutions offered at the previous meeting of the Branch, Prof. F. P. Stroup submitted the following on behalf of the committee:

To the Philadelphia Branch of the American Pharmaceutical Association:

The Committee, to whom was referred the resolutions offered by Dr. F. E. Stewart at the last monthly meeting of the Branch, met at the home of Mr. Ambrose Hunsberger, on Wednesday evening, February 26. In the absence of Mr. Charles E. Vanderkleed, who had been appointed as Chairman, the Committee organized with Mr. George M. Beringer as Chairman, and Mr. Ambrose Hunsberger as Secretary. After very careful consideration of each paragraph of the resolutions, we re-cast the same and present herewith our recommendations in the form of the following re-draft:

WHEREAS, Progress in the science of medicine and pharmacy is dependent upon cooperative materia medica research on the part of the medical and pharmaceutical professions and manufacturing houses engaged in the materia medica supply business; and

WHEREAS, Cooperation is impracticable unless all concerned adopt the same code of ethics for regulating their relations with each other and the public at large; and

WHEREAS, Cooperation between practitioners of medicine and pharmacy in the investigation, classification and standardization of materia medica products and in the development of knowledge concerning the physiologic action, therapeutic effects and comparative value of such agents is impracticable when these products are controlled by manufacturing houses or their sale promoted by misleading advertising; be it therefore

Resolved, That the Philadelphia Branch of the American Pharmaceutical Association recommend that the American Pharmaceutical Association request the cooperation of the American Medical Association and allied organizations and of Government Departments in formulating a plan by which a bureau of control, representative in character, shall be established, whose duty it shall be to frame rules and regulations for the guidance of those interested in the manufacturing, prescribing and dispensing of such products; and be it

Resolved, That the work of the proposed bureau shall include such functions as the following:

1. The naming of each new materia medica product in conformity with scientific nomenclature.

2. The determination and publication of tests for the identity and purity of each new products introduced.

3. The study of methods of selecting, preparing, preserving, standardizing, compounding and dispensing new materia medica products, and publishing the same for the benefit of those concerned in the professions of medicine and pharmacy.

4. The study of the patent laws relating to materia medica inventions with the view of modifying them to accomplish their true object, namely, the promotion of progress in the science of materia medica and in the arts of pharmacy and therapeutics.

5. The study of the trade mark laws to determine their proper application to commerce in drugs so that brands of materia medica products may be clearly identified and the manufacturers protected from the counterfeiting of brand marks and the public protected from fraud.

6. The scientific classification of materia medica products and preparations; and be it

Resolved, That the manufacturers engaged in the pharmacal and pharmaco-chemical industries be requested to organize scientific departments through which the physicians, pharmacists, chemists, botanists, physiologists and other experts employed by them may be properly recognized and the manufacturer thus held responsible to the medical and pharmaceutical professions; and be it

Resolved, That bulletins stating the results of collective investigations of each new materia medica product should be published by the scientific departments of the manufacturers under the consorship of the bureau.

Each bulletin should contain all available knowledge concerning the product or preparation under investigation. It should include a name which shall be equally free to all having the right of manufacture and, if such exists, a name for the brand which shall identify the manufacturer; include tests for identity and purity; methods of preparing the product or preparation and of standardizing it if a method is available, and also include knowledge available at the time concerning the therapeutic properties, doses and methods of exhibiting the product; and be it

Resolved, That the manufacturers should send sufficient supplies of each new materia medica product or preparation undergoing collective investigation to hospitals, dispensaries and other public institutions, and to a selected list of well known clinicians for clinical test; and be it

Resolved, That the knowledge thus accumulated should be epitomized and published by the bureau in some form of special publication.

Respectfully submitted,
GEORGE M. BERINGER, Chairman.
CHARLES E. VANDERKLEED,
JOSEPH W. ENGLAND.

The presentation of the report of this Committee brought forth considerable discussion, which resulted in a motion to lay upon the table for future consideration.

Following this action a motion to reconsider prevailed and the report of the Committee was adopted with instructions to the Secretary to submit the resolutions as adopted, to the consideration of the parent body.

A spirited debate preceded the final adoption of the resolutions, a majority of the members indicating their desire to have this Branch go on record in favor of the resolutions, believing that a step forward would be made in the uplift of pharmaceutical practice. The most strenuous objection to the resolutions was voiced by Prof. Henry Kraemer, who is a member of the Council of Pharmacy and Chemistry of the A. M. A. In stating his objection Prof. Kraemer "advised against the adoption of these resolutions in the present form for two reasons: (1) Because much of the proposed work was being already effectively done by the Council on Pharmacy and Chemistry of the American Medical Association, and (2) because it seemed improbable to him that the A. Ph. A. could finance such an undertaking."

The following list of names was presented by the Nominating Committee as its choice for officers of the Branch to serve during the ensuing year:

President—W. L. Cliffe.

First Vice-president—Freeman P. Stroup.

Second Vice-president—Charles E. Vanderkleed.

Secretary—Ambrose Hunsberger.

Treasurer—Robert Fischelis.

Committee on Practical Pharmacy—E. F. Cook, Dr. John R. Minehart, Samuel C. Henry.

Committee on Professional Relations—H. C. Blair, Frank E. Morgan, Richard Cuthbert.

Committee on Membership—William E. Lee, Frederick T. Gordon, William A. Pearson.

A motion was adopted instructing the Secretary to cast a ballot electing the list as presented.

Adopting the further suggestion of the Nominating Committee, it was decided to omit electing officers for the Scientific Section, it being suggested instead that if it was deemed desirable to hold a special scientific meeting, that the First Vice-president of the Branch be empowered, as Chairman of such a meeting, to make the necessary arrangements, and that the Treasurer of the Branch act as Secretary and keep the minutes of any such scientific meetings.

The Nominating Committee consisted of Julius W. Sturmer, John K. Thum and Henry Kraemer.

The death of Prof. Oldberg being announced, a committee to draw up proper resolutions was appointed, consisting of Messrs. Kraemer, Blair and Stewart. Prof. Kraemer eulogized the high character of Prof. Oldberg, saying that he stood as a high mountain peak in American Pharmacy; that he had done more to further professional relations and elevate pharmacy than any other man, and that he was a man of fine character, unfailing courage and extraordinary ability.

Discussion of the topic of the evening, "The Status of the Qualified Assistant as to Qualifications, Responsibilities and Limitations," was opened by Mr. Samuel C. Henry. The speaker described the arduous efforts made in the direction of placing the Qualified Assistant in a proper and generally understood position. Much effort has been spent, said the speaker, in the direction of elevating pharmacy in general. Qualifications had been raised in every direction except that of the Qualified Assistant, who was left to remain in the same position of responsibility, or lack of the same, that he had occupied since time immemorial. The problem involved in the Qualified Assistant, consisted chiefly in that no one seemed to know the limit of his responsibility. While it was generally assumed that under present laws, a Qualified Assistant had the right to assume full charge of a drug store, during the temporary absence of the proprietor, the question arose, What is a temporary absence? Any absence was temporary, so long as the absentee contemplated coming back. This might mean a week or a year. This confused condition of affairs resulted in many stores being run practically by Qualified Assistants. Since this was a fact, and there being no evident inclination to limit the present so-called rights and privileges of the Q. A., a step in the right direction would be to require higher qualifications from him. The speaker strongly favored four years of practical experience in a retail store as a pre-

liminary to the issuance of a Qualified Assistant's certifiaate.

Mr. F. M. Apple thought the Qualified Assistant situation was a disgrace to Pharmacy, and strongly urged an extension of the number of years of practical experience, and further recommended a practical examination by the State Examining Board, approaching in its requirements of proficiency, the averages necessary for the certificate of Registered Pharmacist. The speaker also directed attention to the reprehensible practice of retail druggists who dishonestly vouched for the time of men who really do no actual practical drug store work.

The topic was further discussed by Messrs. Kraemer, Fishelis, Blair and others present, and the debate ended with the adoption of the following resolution:

Resolved, That we, the members of the Philadelphia Branch of the A. Ph. A., request that the Pennsylvania State Pharmaceutical Examining Board require practical examinations of the applicants for the certificate of Qualified Assistant Pharmacist."

This resolution was unanimously adopted upon motion of Mr. Apple, seconded by Mr. Henry.

AMBROSE HUNSBERGER, Secretary.

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CITY OF WASHINGTON BRANCH.

The regular March meeting of the City of Washington Branch of the American Pharmaceutical Association was held March 12, 1913, at the National College of Pharmacy, the meeting being called to order at 8:15 p. m., by Dr. Lyman F. Kebler, the president.

Dr. S. L. Hilton was called upon and read the following communications addressed to him, from the Honorable Francis Burton Harrison, M. C.:

"February 24, 1913.

"It gives me pleasure to accept your kind invitation to be present at the meeting of the City of Washington Branch of the American Pharmaceutical Association at the National College of Pharmacy on Wednesday evening, March 12, at 8 p. m."

"March 11, 1913.

"Several days ago you were kind enough to extend me an invitation to be present at a meeting of the Washington Branch of the American Pharmaceutical Association on tomorrow evening, which I accepted. I regret exceedingly that I will be unable to attend on account of a meeting of our Committee (Ways and Means) at the same time, to discuss tariff matters, and I want to assure you that I am greatly disappointed."

The communications were received and regret expressed that Congressman Harrison was unable to attend as anticipated.

Mr. Hilton was then elected Secretary pro tem, in the absence of the Secretary.

Dr. Kebler made a short statement covering the subject of anti-narcotic legislation and called upon Mr. M. I. Wilbert to open the question.

Mr. Wilbert's paper showed the extent to which anti-narcotic legislation had advanced throughout the fifty-five political divisions of the United States, and that the laws governing the sale of narcotics were becoming more stringent and more uniform; that the necessity for interstate regulation of the sale of narcotics has become generally apparent, and that if a measure to govern such traffic were introduced into Congress, it would receive the support of law-respecting pharmacists and physicians. He pointed to the endorsements of the National Drug Trade Conference held in Washington, January 15, 1913, and to that of the Ninth Annual Conference on Medical Legislation, held in Chicago, February 25, 1913, for a bill of this character, and showed clearly that the objections thereto were of minor character and could be effectually eliminated. He described the merits of H. B. 28,277 (the Harrison Bill), and made clear that such a bill would effectively remove the present deplorable conditions existent with regard to the sale of narcotic drugs.

In addition he submitted statistics showing that 1,170,000 kilos (22,722 cases), of coca leaves were produced in Java, and of this quantity 179,540 pounds, representing approximately ten tons of cocaine, or one-half the product, was used in the United States. This quantity does not include the production of coca in other countries, much of which is imported into this country.

Mr. Hilton called attention to the Drug Trade Conference meeting and pointed out some of the defects of the bill, H. R. 28277, apparent to the conference, namely Section 4 and Section 10.

With the further discussion of the Harrison Bill, Dr. W. C. Woodward called attention to the fact that it was unfortunate that a law of the kind proposed would necessarily be a burden in a greater or less extent to the pharmacist, who would be the one

affected by it. He also remarked that the government in this matter had a dual potentiality, that of regulating interstate commerce, and, further, that of going into a state and taxing those engged in the traffic, both of which being made necessary by the features involved. Provisions requiring the limiting of the issue of licenses to those actually registered and licensed as physicians and pharmacists, he believed, were absolutely imperative, and he regretted that both Dr. Hamilton Wright and Congressman Harrison were not present to hear the views of the members in this matter. He stated that Dr. Wright had represented the United States Government at The Hague at several conferences held for the purpose of controlling habit-forming drugs of the world, and that he no doubt would learn something and would be willing to meet those interested half way, so that an agreement might be reached, and thereby secure by act of Congress a law controlling said products, saving the honor of the United States before The Hague.

A bill as proposed by the Drug Trades Conference was then presented by Mr. Wilbert.

Dr. Alsberg, Chief of the Bureau of Chemistry, Department of Agriculture, said specifically that he was in favor of such legislation but had not sufficiently considered what had been offered to express any definite view on the pending, or proposed official capacity to enforce the present laws to their limit. He favors—although he did not express himself fully—the drafting of a bill covering the sale of cocaine solely, and that another bill be be provided for the other habit-forming drugs. He, himself, desires statistics of a definite character showing what becomes of narcotic drugs, i. e., what part is legitimately used and what per centum is illegitimately used.

The question of external remedies containing narcotics was brought up by Mr. W. S. Richardson, who believes that the sale of which should not be restricted by the provisions of the proposed legislation.

Following a minor discussion of the question raised by Mr. Richardson, the bill as proposed by the Drug Trade Conference was again taken up and defended by Dr. Woodward, who declared that the physician could not keep an accurate and complete record of each dose of a narcotic which he might prescribe. Further discussion was participated in by Messrs. Fuller, Wilbert, Kebler, Alsberg, Richardson, Hunt, Hurlebaus, Flemer, Mankin, Hilton, and Dr. Crampton, all favoring the enactment of a law by Congress controlling interstate commerce in habit-forming drugs. Dr. Crampton dwelt at some length upon an agreement of interests, and also cooperation with proper executive officers having the enforcement of such laws in the drafting of proper regulations for the enforcement thereof, and upon the coordination of all revenue laws which is so desirable.

The next meeting will be held April 16, 1913.

Respectfully, submitted,

HENRY B. FLOYD, Secretary.

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SAINT LOUIS BRANCH.

The Saint Louis Branch of the American Pharmaceutical Association met in regular session in the Saint Louis College of Pharmacy on February 28, 1913, with President Ilhardt in the chair.

The minutes of the January, 1913, meeting were read and approved.

In the absence of all the members of the Memorial Committee the secretary read their letter to Mr. Edward Mallinckrodt expressing the sympathy of the Branch in the death of his wife.

The secretary then presented a bill for $5.25, covering the expense of postage used in sending out calls for the January and February meetings, and other correspondence of the Branch. On motion of Mr. Collins the bill was allowed.

A motion was then made by Dr. Whelpley, seconded by Professor Hemm, and carried, that the secretary make a full report of all oral communications, and to record by title only the written papers.

The chair then took up the program, and called upon Professor Suppan, who presented a note on the Aconitine Content in Tincture of Aconite as given in a synoptical report sent out by Professor Ladd, State Food Inspector of North Dakota. In commenting on the report, Professor Suppan stated that the results given were very interesting, but they were defective in the respect that they failed to state by what process the tinctures other than those prepared from the fluidextracts were made; nor was

there anything in the report to indicate how long the tinctures examined had been kept in stock—an important point to consider in view of the fact that aconite and its preparations deteriorate readily.

Doctor Whelpley then made a motion, which carried, that Professor Suppan be instructed to continue his investigations, and to make determinations of the Aconitine Content in Tincture of Aconite as found in the drug stores of Saint Louis.

The chair then called upon Doctor Whelpley, who read a paper entitled, "The Proposed Home of the American Pharmaceutical Association." On supported motion the paper was received and filed.

Professor Suppan made a motion, seconded by Mr. Gietner, that the Branch go on record as favoring a permanent Home for the American Pharmaceutical Association.

Professor Suppan then stated that he had a talk with Mr. L. P. Jensen, noted landscape architect, who is willing to give us an illustrated paper at a future meeting of the Branch on the plants growing about Saint Louis which now are used in preparations sold by the retail druggists of this city. He concluded by saying that a paper of this kind would be very interesting, especially in the early spring, for it will furnish us a kind of guide for our visits to the Missouri Botanical Garden, and in gathering plants for our herbarium.

The speakers of the evening were extended a vote of thanks and on motion the meeting adjourned.

J. W. MACKELDEN, Secretary.

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PITTSBURGH BRANCH.

Those who were present at the meeting of the Pittsburgh Branch, Friday evening, March 14, were fortunate in being permitted to listen to two very instructive lectures, each filled with a fund of information of the most interesting character. Dr. A. F. Judd gave a talk on the rubber-growing industry, beginning at the original source from whence rubber was first found along the course of the Amazon River, Brazil. The care taken by the Brazillian government to maintain its monopoly of the product and how it was eventually defeated in its purpose. The story of how the seed was obtained and the manner in which it was successfully gotten out of the country and the experimental work done to give it an adopted home in other sections of the world by the distribution of the seed thus obtained. Dr. Judd said that had the destructive methods pursued in the securing of the sap, followed by those who were engaged in its production in Brazil continued, and the smuggling of the seed out of that country under the auspices of the English government had failed of success, there would long since have been a rubber famine, and the immense manufacturing plants devoted to the manufacture of articles made from rubber of today could never have been brought about.

Dr. J. H. Wurdack continued his lecture, the first chapter of which he delivered at the February meeting, and his description of how the various rocks are formed, and the processes through which they pass, the difference in their chemical constituents and what causes these differences was extremely interesting and replete with instruction. Dr. Wurdack told how heat, moisture, pressure and the action of the elements all play their respective parts in the producing of the many kinds of rocks we know and of which our knowledge consists largely of their names only.

The old officers of the Branch were reelected as follows: President, Andrew Campbell; First Vice-President, Louis Saalbach; Second Vice President, P. G. Walter; Third Vice President, Leonard K. Darbaker; Secretary, B. E. Pritchard; Treasurer, P. Henry Utech. For Committee Chairmen: Membership, Chas. E. Willets; Practice, F. J. Blumenschein; Medical Relations, Geo. W. Kutscher; Education and Legislation, J. H. Beal; Publicity, B. E. Pritchard.

B. E. PRITCHARD, Secretary.

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CHICAGO BRANCH.

The March meeting of the Chicago Branch of the American Pharmaceutical Association was especially designed for the graduating classes of the Schools of Pharmacy represented in the Branch.

In addition to a goodly attendance of teachers and students from the Chicago pharmacy schools, a large delegation of students, led by Professors Timmons and Linton from Valparaiso, attended the meeting, which was held on Tuesday evening,

March 18, at the University of Illinois School of Pharmacy.

The topic of the evening was "The Building up of a Drug Business," and the discussion was led by Mr. James W. Morrison, who presented the subject of the relation between wholesaler and retailer. He said to the young men that no one should consider purchasing or establishing a drug business who had not sufficient money to pay for at least two-thirds of the initial investment. Furthermore, that a reputation for honesty and fair dealing even as a clerk counted more when it same to establish a line of credit with the wholesaler than did a good bank account or rich relatives.

Mr. I. M. Light presented the advantages of organization to the retailer and dwelt at length on the activities of Chicago Retail Druggists' Association, the largest local organization of druggists in the world.

Professor George D. Oglesby spoke from the standpoint of ethical pharmacy and especially of the difficulties of conducting a purely ethical pharmacy.

Mr. C. A. Storer discussed prescription pricing and the value of side lines; President W. B. Day presented the necessity and value of moral and business honesty, and a number of others, retail druggists and pharmacy teachers, discussed the subject.

Resolutions of sympathy relative to the death of Professor Oldberg and of Mrs. Fred W. Meissner, of LaPorte, were unanimously adopted.

E. N. GATHERCOAL, Sec'y.

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NEW YORK BRANCH.

The regular meeting of the New York Branch of the American Pharmaceutical Association for the month of March, was held on the evening of Monday, the tenth. President C. O. Bigelow was in the chair.

The minutes of the preceding meeting were not read, but in the future the reading of the minutes will not be dispensed with.

A healthy cash balance was reported by Treasurer Joseph Weinstein.

For the Committee on Membership, Louis Berger, chairman, announced the beginning of a definite campaign for new members

Peter Diamond, chairman of the Committee on Fraternal Relations, asked for some light on the matter of a joint meeting with the county medical society. Secretary Craig read a letter from the medical committee bearing on the same subject. Mr. Diamond was instructed to consider the feasibility of a joint meeting.

Included in the report of the Committee on the Progress of Pharmacy, presented by G. C. Diekman, were references to the following topics: "Adulterated Linseed Oil in Germany;" "Narcophine, a Succedaneum for Morphine;" "The Improvement of Medicinal Plants by Cultivation;" "Poisoning by Camphor;" "The Signs of Overdosage in Digitalis Medication;" "Reversed Rythm of the Heart;" "A Certain Cure for Tapeworm;" "Ichthyol and Substitutes Therefor," and "The Preparation of Organic Reagents for Inorganic Analysis." These topics were discussed by Messrs. Weinstein, Mayer, Mansfield, and Raubenheimer, and the report was duly received.

W. C. Anderson, reporting as chairman of the Committee on Education and Legislation, made a brief but comprehensive review of the pharmacal phases of national legislative activity. At the invitation of Mr. Anderson, John Roemer told of the pharmacal measures getting attention from the state law-makers at Albany. C. A. Mayo remarked that there were pending in the twenty-nine state legislatures then in session, sixty-four bills affecting pharmacy. T. F. Main brought up in addition the matter of the effect of the state weights and measures law upon the drug trade. The report of the committee was duly received.

As chairman of the Committee on Memorials, C. A. Mayo presented two sets of resolutions in memory of Ewen McIntyre and Thomas P. Cook. These resolutions were duly adopted.

A paper entitled "A Home for the American Pharmaceutical Association" was presented by H. V. Arny, and was received with a considerable display of enthusiasm in the project with which it dealt. The author pointed out quite clearly the advantages that would accrue to the Association and to pharmacy as a profession if the organization which represents the best and most advanced interests in all branches of the calling had a home wherein its executive headquarters and its publication offices might be located, and which might afford laboratory facilities for original research and the application of suggestions relating to official drugs and formulas.

The matter with which Mr. Arny's paper had to do was discussed by Messrs. Roemer, Mayer, McElhenie and Mansfield. The outcome was the adoption of a motion that the paper be offered for publication in the JOURNAL of the Association and that the New York Branch lend its aid and influence to the furtherance of the project.

In a paper entitled "On the Uniformity of Drug Standards and Uniform Requirements in Dispensing," John Roemer reintroduced the subject brought up at the February meeting in a paper received from L. E. Sayre, of Lawrence, Kansas. Mr. Roemer was of the opinion that Mr. Sayre was endeavoring to interest the American Pharmaceutical Association in the necessity for some endeavor toward the correction of the evil that lies in the exemption of dispensing physicians from the provisions of pharmacy and drug laws. His belief was that only through legislation could the desired end be attained and the welfare of the public safeguarded.

Apathy on the part of the pharmacists, said Mr. Roemer, is largely responsible for the deplorable condition that exists because of the dispensing of drugs without the law. Therefore he contended that pharmacists should assume the right to essay the correction of this condition and should, through their associations, co-operate with the better thinkers of the medical profession against the evil which assailed both. The medical societies are ready to co-operate, he said, and the American Pharmaceutical Association should ally itself with the American Medicinal Association to begin the crusade.

Mr. Roemer's paper was received with an expression of thanks. But the matter was not allowed so to be closed. Secretary Craig deprecated the continued indication of a sidestepping policy and advocated some definite declaration in the matter, that would show that the Branch recognized the neeed for reform and was in favor of reformative action. Mr. Arny supported Mr. Craig, condemning in no uncertain terms the impertinence and boldness of dispensing physicians. Messrs. McElhenie and Berger also spoke upon the subject. And the following motion was adopted:

It is the opinion of the New York Branch of the American Pharmaceutical Association that there is a crying need for reform in the matter of the exemption of dispensing physicians and the drugs they dispense, from the provisions of the state laws relating to the practice of pharmacy; and the Branch is further of the opinion that the American Pharmaceutical Association should give to the question of such reform, earnest consideration.

Adjournment was taken at 10:50 o'clock.

HUGH CRAIG, Secretary.

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NEW ENGLAND BRANCH.

A regular meeting was held at Hotel Nottingham, Boston, on Wednesday evening, March 19. There were about fifty present.

President Henry A. Eastabrook invited Mr. J. G. Godding to outline the plans for an Association home, which he did, the Branch then voting to endorse the movement to establish such a home where the property of the Association can be properly cared for.

The speaker of the evening was George C. Frolich, Ph. G., on "Biologicals and the Retail Pharmacist."

Mr. Frolich, an expert actively engaged in the distribution of biological products now and for many years past, made a really remarkable address on the manufacture, use and sale of these products. While necessrily technical to a great extent, his remarks on the storing and handling of serums and vaccines were sufficiently practical for anyone and the profits to be derived by following his advice are certainly going to be large.

A short time was devoted to the organo products, such as Thyroid, Suprarenal and Pituitary extracts.

An exhibition of commercial antitoxines and vaccines was placed at the disposal of those who cared to examine them, and many grasped the opportunity to do so.

R. ALBRO NEWTON, Secretary.

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NASHVILLE BRANCH.

The Nashville Branch of the American Pharmaceutical Association held its regular meeting in Furman hall Thursday afternoon, March 13, with President J. O. Burge in the chair.

W. R. White, of the membership committee, reported the approval by Secretary J. H. Beal of the plans of the committee to begin a campaign of the Southern states for new members and the awarding of the contract

to a local firm for the printing of the literature to be sent out.

Dr. E. A. Ruddiman, chairman of the general entertainment committee, read many letters from pharmacists throughout the state accepting appointment on the committee and pledging their best services in helping to entertain the American Pharmaceutical Association, which meets here in August. He requests that the chairmen of the special committees report the names of their full committees to him as soon as possible.

The aid of all druggists in the city is solicited in preparing to entertain this great body of pharmacists, whether they are members of the Association or not.

A novel combination badge and watch fob with a picture of the Hermitage on a pendant was proposed to give to attending delegates and was referred to the badge committee.

A publicity committee will be appointed to boost Nashville in each of the drug journals.

A communication from the German Apothecaries' Association of New York was received, announcing an European trip which the association will give to pharmacists of this country next year. All of the great manufacturing industries of the old country will be visited.

Dr. J. O. Burge was appointed chairman of a local committee to work up interest in the trip at the Association meeting here in August.

The Branch then adjourned to meet again April 10.

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CINCINNATI BRANCH.

The first meeting of the Cincinnati Branch of the American Pharmaceutical Association was held at Lloyd's Library, West Court street, March 18. A large and enthusiastic membership and friends greeted Chairman Theo. D. Wetterstroem, who at once opened the meeting by requesting Temporary Secretary C. A. Apmeyer to read the minutes of the preliminary meeting held February 11, which being done, said proceedings were readily adopted by all members present.

The report of the Committee on Organization was presented by Mr. Frank H. Freericks in a very masterly manner. He submitted a type written copy of the Preamble, Constitution and By-Laws, which were adopted by the members, after voting on each article and section and finally ratifying same as a whole.

The report of the Committee on Nominations was submitted by Chairman Edw. Voss Jr., and resulted in the election of the following officers, to serve to May, 1914:

President, Prof. John U. Lloyd.

First Vice-President, Theo. D. Wetterstroem.

Second Vice-President, Fred W. Weissmann.

Treasurer, Fred S. Koppe.

Secretary, Chas. A. Apmeyer.

Executive Committee, three years, Chas. T. P. Fennel; two years, Chas. G. Merrell; one year, Dr. A. O. Zwick.

The installation of officers followed, during which each newly elected officer responded heartily and pledged himself to further the interests not alone of the babe newly born but also of the parent body.

The next meeting will be held April 8, 1913, and the Program Committee promises some real treats.

CHAS. A. APMEYER, Sec'y.

Obituaries and Memorials

Persons having information of the death of members of the A. Ph. A. are requested to send the same promptly to J. W. England, 415 N. 33d St., Philadelphia, Pa. Information as to the age, activities in pharmacy, family, etc., of the deceased should be as complete as possible. When convenient a cabinet photograph should accompany data.

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MRS. FREDERICK W. MEISSNER.

Mrs. Frederick W. Meissner died of uraemic poisoning at LaPorte, Ind., on February 28, 1913. Her maiden name was Alice G. Clement, and she was born at Rising Sun, Ohio county, Indiana, on September 12, 1861. Her marriage to Frederick W. Meissner took place in December 2, 1891. She had four children—Clement F., Roger M., Virginia N. and Frederick W.

Mrs. Meissner was a gentle home-woman, finding life's happiness greatest in loving devotion to her family, and yet interested, also, in fraternal and social work. The sympathies of the members of the American Pharmaceutical Association will go out in fullest measure to their fellow member—Frederick W. Meissner, in his bereavement.

RICHARD FROHWEIN.

Richard Frohwein, the oldest pharmacist of Elizabeth, N. J., died on January 18, 1913. He was born in 1831 at Atzmannsdorf, Germany, and came to America in 1854. He received his early training in pharmacy in his native land; he opened a drug store in Elizabeth, on Fulton street, near First; two years later he moved to Marshall street, and seven years still later, he bought the drug store of Dr. T. L. Hough, 122 First street, which he conducted until two years ago. Mr. Frohwein was an honorary member of the College of Pharmacy of the City of New York, and one of the founders of the New Jersey Pharmaceutical Association. He joined the American Pharmaceutical Association in 1867. Mr. Frohwein was prominent in public affairs. He was secretary and treasurer of the Elizabeth Savings Bank, postmaster of the first substation of his city, and a member of the Board of Health of Elizabeth. Three sons, all pharmacists, two daughters, five grand children, and one great-grandchild survive him. J. W. E.

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LOUIS LEHMAN.

Louis Lehman, of Chicago, Ill., died on January 6, 1913. He was one of the incorporators and first trustees of the Chicago Retail Druggists' Association, and for a time secretary of the latter organization. He became a member of the American Pharmaceutical Association in 1905. J. W. E.

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WILLIAM W. GOODWIN.

William W. Goodwin, aged ninety-six years, died at Newburyport, Mass., on February 13, 1913. He was a native of Hartford, Conn., and went to Boston in 1840 to become a member of the Theodore Metcalf Company, with which he remained until his retirement several years ago. He has been a member of the American Pharmaceutical Association since 1853. He is survived by his wife. J. W. E.

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PROF. OSCAR OLDBERG.

DALLAS, TEX., March 3, 1913.

Death always comes unexectedly and, though we knew that death had touched the generous heart of Dr. Oldberg some years ago and that he had then begun to die, we were truly saddened if not shocked to hear the news of his demise.

Having been called upon to preside in place of Dr. Oldberg at the Los Angeles meeting of the A. Ph. A., a friendly interest developed on my part, because of an anxiety to represent as well as it was possible, one so much better qualified.

There was much sadness in the latter years of Dr. Oldberg's life, induced by sickness, but with it all he sustained his deserved reputation as pharmacist and teacher, a man of unsullied honor and commendable fortitude. It may well be said of him, he was faithful and loyal to the end. Only a few months ago he delivered his last message to pharmacists through the work which was to be his last. Doubtless much of it done in pain by the patient, feeble sufferer, so that he might instruct; the last offering in the interest of pharmacists. Such a work has an added value and becomes a treasure, every page consecrated by sufferings, weariness and devotion, the record of many long, sad and hopeless hours.

As the splendors of the sun linger in the West even after his setting, and the influence of his powers have been contributed to living things, so also, the memory of Dr. Oldberg will remain with those who knew him best, and the lessons he conveyed to others will continue influential in the lives of many pharmacists whose activities have a part in the development of pharmacy.

"Vita mortuorum in memoria vivorum est posita."

E. G. EBERLE.

PHILADELPHIA, March 4, 1913.

A life of unceasing toil dedicated to pharmacy and since 1911, when he suffered from a paralytic stroke, bravely waiting for the summons home. Professor Oldberg was a marvel for work; he had an analytical and at the same time a constructive mind, and his Swedish ancestry was probably responsible for his persistent industry. When he took up a subject he would not give up until he had exhausted its possibilities; he was a born teacher who loved to communicate. His language was clear and forceful; he was a man of ideas and an original thinker. He knew how to marshal facts and as a special pleader he was one of the best I have every known; to those who differed from him, and he did not court approval, he was a man

to be reckoned with. His intellect was keen and his reasoning close and his students universally praise his work. While not always tolerant towards those who opposed him, he nevertheless harbored few resentments. He had a scientific mind and the habit of order, and any one who will read his contributions to American pharmacy, which have been of the highest order, will realize that he was a trained observer of facts and that he knew how to present them; one was never left in doubt as to Professor Oldberg's meaning, whether he was engaged in writing textbooks, preparing a brochure for the American Pharmaceutical Association, or presiding over a convention; he always presented his thoughts in a clear, incisive manner. He will be greatly missed and, though he has gone home to rest, his works are his monument. Honest and true, just and faithful to his university and to the true interests of pharmacy, Oscar Oldberg will be remembered in the future as one who served to the best of his ability his fellow men in all of life's activities.

J. P. REMINGTON.

CAMDEN, N. J., March 11, 1913.

There has passed away another of the "old guard" who have so faithfully and so unselfishly labored in behalf of American pharmacy. Former president of the American Pharmaceutical Association Oscar Oldberg was claimed by death at Pasadena, Cal., on February 27. Another gentle, lovable spirit has "crossed the bar." With the news of his decease comes that inexplicable sorrow and keen sense of the loss that our Association has sustained. Another link in that intangible and unseen chain that binds us in fellowship here has been broken asunder.

Words of tribute from his associates and friends are appropriate and timely, and I beg the privilege of adding my wreath of a few sentences, fully realizing as I pen the words how inadequately they express the sentiments in my heart.

Dr. Oscar Oldberg was characterized by a personality that was agreeable and inviting, a mien that was dignified yet pleasing, a spirit that was kind, mild and lovable yet sagacious. His words demonstrated the uprightness of his thoughts and his utterances were always heeded as expressions of wisdom resulting from thoughtful deliberation of a mind schooled in inward debate and study. He contended for principles that in his judgment meant the upbuilding and advancement of pharmacy.

He was a faithful and conscientious teacher and leader. A persistent and consistent writer whose contributions were dignified and thoughtful presentation of facts and views plainly expressed and in an excellent style. An author of acknowledged merit whose works will serve for more than the present time and generation.

Dr. Oldberg was one whom we were proud to call our friend; a man among men. A giant among intellectual giants, who always bore himself properly and acquitted himself creditably. His influence was impressed indelibly upon pharmacy. As pharmacists and as friends, we mourn his loss; we honor him and shall always cherish his memory.

GEORGE M. BERINGER.

RESOLUTIONS ADOPTED BY THE CHICAGO BRANCH A. PH. A.

WHEREAS, The members of the Chicago Branch have learned with deep sorrow of the death of Professor Oscar Oldberg, who was an ex-president of the Association as well as the first president of the Branch, and for many years one of its most active leaders; and,

WHEREAS, Professor Oldberg was a pharmacist and educator of more than national reputation and a courageous leader who strove with constancy for the attainment of high ideals for American pharmacy; be it

Resolved, That in the death of Oscar Oldberg the pharmacists of America and the members of the Chicago Branch in particular, have lost a powerful champion, a courageous leader and a true friend whose precepts and example will long remain and will hold before us nobler ideals and encourage us to higher aims; and be it further

Resolved, That we, the members of the Chicago Branch, do express our admiration of the character of Oscar Oldberg and our deep sorrow in his loss, and that we offer our sincere sympathy and condolence to the members of the bereaved family. Be it further

Resolved, That a copy of these resolutions be spread upon the minutes of the Branch and copies be sent to the pharmaceutical press.

IN MEMORY OF THOMAS PENROSE COOK.

Born March 26, 1849; died January 7, 1913.

Resolutions adopted by the New York Branch of the American Pharmaceutical Association at a meeting held on March 10, 1913:

WHEREAS, Thomas Penrose Cook faithfully served the profession of pharmacy throughout the whole of his adult life; and

WHEREAS, He was for thirty-five years an active member of the American Pharmaceutical Association, serving as a most efficient local secretary during the meeting held in New York; and

WHEREAS, He has been a member of the New York Branch of the Association since its organization, and has done valuable service as chairman of the committee on legislation; therefore, be it

Resolved, By the New York Branch of the American Pharmaceutical Association, that his death is deeply deplored by the organization as removing from its ranks one of its most valued and active members and one of the most highly esteemed and popular officers. Be it further

Resolved, That the officers of the Branch be requested to forward to the family of Mr. Cook a copy of these resolutions as evidence of the warm regard in which he was held by the members of the Branch, and of the sincere sympathy which they feel for his family in their loss.

CASWELL A. MAYO,
OTTO RAUBENHEIMER,
HUGH CRAIG,
Committee.

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IN MEMORY OF EWEN McINTYRE.

Born January 18, 1827; died January 8, 1913.

Resolutions adopted by the New York Branch of the American Pharmaceutical Association, at a meeting held at the New York College of Pharmacy on Monday evening, March 10:

WHEREAS, The observations and experiments of the late Ewen McIntyre regarding the adulteration of imported chemicals were responsible for the formation of the American Pharmaceutical Association and for the enactment of laws prohibiting the importation of adulterated drugs and chemicals; and

WHEREAS, Throughout his long, busy and useful life he devoted a large portion of his time to the elevation of his calling through education and association work; and

WHEREAS, His frank, cordial and kindly manner had won for him the love, esteem and affection of pharmacists all over the United States; therefore, be it

Resolved, By the New York Branch of the American Pharmaceutical Association, that a page in the minutes of the Branch be set aside to commemorate his services to pharmacy and as a token of the affectionate regard in which he was held by his fellow members of the Branch; and be it further

Resolved, That the officers of the Branch be instructed to send a copy of these resolutions to the family of Mr. McIntyre as evidence of the sympathy which the members feel for them in their irreparable loss.

CASWELL A. MAYO,
OTTO RAUBENHEIMER,
HUGH CRAIG,
Committee.

THE CREAM OF BUSINESS.

Discounts are pure cream of business. All other profits we earn, some many times over; but discounts are easy money. If dealers were to try half as hard to take discounts as to sell goods, the balance of profits in their favor would rapidly increase.

Discounting bills is a habit (and a good habit) and once formed a man will try as hard to meet the terms of discount as he would the terms of his bills. What is the result? The whole business feels the effect of the method in prompt collections, conservative credit, conservative personal expense.

Try this plan: Make a firm resolve to discount your bills. It may take you two or three years to be able to do so in all cases, but you will be amply repaid in the remaining years of your business career.—*The Apothecary.*

Changes of Address

All changes of address of members should be sent to the General Secretary promptly.

The Association will not be responsible for non-delivery of the Annual Volume or Year Book, or of the JOURNAL unless notice of change of address is received before shipment or mailing.

Both the old and the new address should be given, thus:

HENRY MILTON,
From 2342 Albion Place, St. Louis, Mo.
To 278 Dartmouth St., Boston, Mass.

Titles or degrees to be used in publications or in the official records should be given, and names should be *plainly* written, or typewritten.

<>

REUM, ARTHUR W.,
From Box 643 Klamath Falls, Oregon,
To 1124 Gough St., San Francisco, Cal.

BROWN, B. A.,
From 711 Bell St., Seattle, Wash.,
To 4730 Latona St., Seattle, Wash.

KNAPP, GUS,
From Laguna, P. I.,
To 40 Garrison Lane, Baltimore, Md.

ECKLER, CHAS. R.,
From 432 E. St. Clair Ave.,
To 335 Northern Ave., Indianapolis, Ind.

HUGILL, RAY,
From Detroit, Mich.,
To Cheboygan, Mich.

MOYER, A. E.,
From Detroit, Mich.,
To Erie, Mich.

PHARES, WALTER L.,
From Rock Island Arsenal, Rock Island, Ill.,
To care Chief Surgeon, Philippine Div., Manila, P. I.

SMITH, WM. H.,
From Yonkers, N. Y.,
To Desmond Ave., Bronxville, N. Y.

WATSON, E. T.,
From Rule, Texas,
To Newcastle, Pa.

BERKOWITZ, MORRIS R.,
From Chelsea, Mass.,
To residence unknown.

BLANCHE, ROBERT H.,
From Philadelphia, Pa.,
To residence unknown.

BALLOU, CLARENCE O.,
From 8th and 17th Sts., Boise, Idaho,
To 9th and Idaho, Boise, Idaho.

COLEMAN, GEO. E.,
From 607 Washington St., Dorchester Center, Mass.,
To 21 Aspinwall Road, Dorchester Center, Mass.

FONTEYNE, GUSTAVE,
From Ft. Wint, P. I.,
To Ft. McKinley, P. I.

YOUNG, DR. HARRY G.,
From 7937 Madeira St., Pittsburgh, Pa.,
To Forest and Birmingham Aves., Avalon, Pa.

ALBERTS, LEE,
From Lowell, Indiana,
To Kewanee, Wisconsin.

RIESS, H. W., Sgt. H. C., U. S. A.,
From Ft. Wayne, Mich.,
To C. S. O., 2d Div., Texas City, Tex.

STEPHENSON, JOHN J.,
From 1880 Lexington Ave., New York, N. Y.,
To 2140 Jamaica Ave., Richmond Hill, Long Island, N. Y.

ROE, J. N.,
From College and Locust Sts., Valparaiso, Ind.,
To 706 S. Lincoln St., Chicago, Ill.

THE EXCEPTIONAL EMPLOYE.

Mr. Carnegie says: "The most valuable acquisition to his business that an employer can obtain is an exceptional young man. There is no bargain so fruitful."

By the exceptional young man Mr. Carnegie means the one who is always looking out for his employer's interests, the young man who keeps his eyes open, who is always trying to make suggestions for improvements in the business, who is always studying for some better, simpler, more efficient way of doing things.

Never before was there such a demand for the exceptional, the resourceful man, the man who can think, who can devise new and original ways of doing things, the man who can grasp the needs of the situation and solve them with his own resourcefulness.

Napoleon said that his soldiers fought so well because every man carried a field marshal's baton in his knapsack. In other words, every man in Napoleon's army *expected advancement and was prepared for it.*

The principle of advancement, of growth, of progress, is the same whether in employer

or employe. Business grows because of enterprising, progressive, pushing, up-to-date methods. Promotion for the employe requires the same pushing, vigorous, alert methods.

If you want to be advanced, you must be dead-in-earnest and enthusiastic over your employer's business. You must go to the bottom of it; study it, just as much about it as possible. If you intend to take up the same line of business yourself, your present opportunity of observation and study will be of untold value to you. At present, you are really an apprentice, being well paid for your work, besides having the opportunity to learn the business.—*Orison Swett Marden.*

DOES NOT KNOW WHAT HE IS LOSING.

A man can be a good citizen and a good druggist without being a member of his state and national pharmaceutical associations, and in spite of denying himself the privilege of attending their meetings, but, by doing so he is missing the one thing needed to round out his higher professional life and to make his day's work a thing of pleasure and satisfaction instead of year round drudgery. There is nothing that will benefit a man in all ways more than the direct personal, friendly contact with other men interested in the same problems and the same ways of making a livelihood as himself, and this is what makes attendance at one's state or at the American Pharmaceutical Association meetings worth while. A man can read the papers contributed by fellow members at his leisure and can study them to better advantage then, but he misses the personal comment, criticism and discussion of other men that often make the paper a living thing and through which he might get just the suggestion he needed for solving some difficult problem of his own. The greatest value of association meetings does not lie in the formal sessions but in the impromptu gatherings of men from different sections and with different experiences, where real personal experiences are told and problems are discussed in a practical way. Ask any man who attends association meetings what feature of the meetings is most profitable and pleasurable to him and he will answer at once, "Meeting other men and swapping experiences."

This is the most valuable feature of all meetings of men associated together for a common purpose and it is one of those intangible things that must be experienced to be valued. The druggist who never attends the meetings of his state association does not know what he is losing; the druggist who does not attend at least one meeting of the American Pharmaceutical Association is an undeveloped as the man who lived at the seashore but who never took a bath, because he did not believe he needed washing. It is not the attendance at formal sessions and attentive discussion of papers and motions that make the meetings pay, it is the real privilege of personal contact with other members, with other men who have ideas and ways of doing things that they are glad and willing to tell others, the broadening of one's mental horizon by such intimate conversation, the realization that even the druggist's life has ideals and men who are striving to make these ideals actualities. Does it pay to meet the men in actual friendly conversation who have been but names in textbooks before? Ask any younger member of your state association, or better yet, a young member of the two great national associations, if he does not think himself well repaid for his time and expense by the friendships formed with older men and by the encouragement received from men whose names are famous in pharmacy and science.—*American Druggist.*